

DTIC/TR 83/4

AD-A133 000

①  
**SHARED BIBLIOGRAPHIC INPUT NETWORK  
(SBIN)  
CONFERENCE PROCEEDINGS**

**OCTOBER 1982**



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Defense Technical Information Center  
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20071001042

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## REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS				
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release, distribution unlimited				
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE							
4. PERFORMING ORGANIZATION REPORT NUMBER(S) DTIC/TR 83-4			5. MONITORING ORGANIZATION REPORT NUMBER(S)				
6a. NAME OF PERFORMING ORGANIZATION Defense Technical Information Center		6b. OFFICE SYMBOL (If applicable) DTIC		7a. NAME OF MONITORING ORGANIZATION			
6c. ADDRESS (City, State and ZIP Code) Cameron Station Alexandria, VA 22314				7b. ADDRESS (City, State and ZIP Code)			
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (If applicable)		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER			
8c. ADDRESS (City, State and ZIP Code)				10. SOURCE OF FUNDING NOS.			
				PROGRAM ELEMENT NO. 65801S	PROJECT NO.	TASK NO.	WORK UNIT NO.
11. TITLE (Include Security Classification) Shared Bibliographic Input Network (SBIN) Conference Proceedings -				October 1982			
12. PERSONAL AUTHOR(S) Compiled by Allan Kuhn and Gladys A. Cotter							
13a. TYPE OF REPORT		13b. TIME COVERED FROM _____ TO _____		14. DATE OF REPORT (Yr., Mo., Day) 1982 Oct		15. PAGE COUNT 76	
16. SUPPLEMENTARY NOTATION							
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)				
FIELD	GROUP	SUB. GR.	Resource Sharing, Shared Cataloging, Network, Shared Bibliographic Input Network, SBIN, Library Automation, Conference Proceedings				
5	2						
5	1						
19. ABSTRACT (Continue on reverse if necessary and identify by block number)							
The Defense Technical Information Center (DTIC) sponsors the Shared Bibliographic Input Network (SBIN) for on-line shared cataloging of technical reports among Department (DOD) agencies and their contractors. An Annual Conference is held to discuss problems, techniques and developments. This conference highlighted site implementation of SBIN and DTIC developments for SBIN.							
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT UNCLASSIFIED/UNLIMITED <input checked="" type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS <input type="checkbox"/>				21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED			
22a. NAME OF RESPONSIBLE INDIVIDUAL Gladys A. Cotter			22b. TELEPHONE NUMBER (Include Area Code) (202) 274-7661		22c. OFFICE SYMBOL DTIC-JA		

## FOREWORD

The Defense Technical Information Center (DTIC) sponsors a Shared Bibliographic Input Network (SBIN) for standardized, on-line input of citations for technical reports. SBIN operates within the closed community of DoD and its contractors since classified, proprietary, and sensitive information is involved. SBIN contributors enter data into the Defense Research, Development, Test, and Evaluation On-Line System (DROLS) through the Remote Terminal Input Subsystem (RTIS) that was developed for on-line input.

Currently, participating DoD libraries and information centers find citations for over 60 percent of their own holdings already in the DROLS Technical Report data base. For those records already in the data base, the library simply appends its holdings symbol to the existing record. If a library does not find a cataloging record for its holding, that library enters the cataloging information, including its holdings symbol. This cataloging information is considered authoritative and is shared by DTIC and other SBIN participants.

The benefits of SBIN participation to libraries are:

- An on-line catalog of their technical report holdings.
- Indepth subject search capability of this on-line catalog.
- Printouts (or computer output microfiche (COM) copies) of their holdings.
- The saving of intellectual effort and staff time required for recataloging the same documents among the DoD technical information community.
- Reduction of the rate of rising library per-unit costs.

There are 30 sites in SBIN at this time and the network continues to expand. A SBIN conference is held once a year to discuss network concerns. Smaller working groups meet throughout the year to address specific topics. These proceedings provide the content of the 1982 SBIN Conference.

I thank all who have participated and contributed their time and effort to this conference.

*Gladys Cotter*

Gladys Cotter  
SBIN Project Manager  
Defense Technical Information Center

SHARED BIBLIOGRAPHIC INPUT NETWORK (SBIN)

CONFERENCE PROCEEDINGS

OCTOBER 1982

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Cameron Station  
Alexandria, Virginia 22314



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DTIC JTB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Classification	
Distribution/	
Availability Codes	
Avail and/or	
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WELCOME

Mr. Hubert E. Sauter  
Administrator  
Defense Technical Information Center

Good morning and welcome to DTIC.

I am glad to see so many sites represented at this conference. DTIC considers SBIN one of its most valuable programs and recognizes that user support and input are essential for network development. The 1982 SBIN Conference promises to be stimulating and I want to thank each of you for your interest and cooperation. Our joint efforts have resulted in significant achievements for SBIN in the past year and we look forward to continued progress.

REPORT ON THE RESOURCE SHARING ADVISORY GROUP (RSAG)

Mr. Peter Imhof, Chairperson  
Director, Technical Library  
Naval Research Laboratory

Early during the SBIN experimentation period, a need was seen by both DTIC and SBIN participants for a means of direct and official communication among network members. The participants formally stated their position in a letter dated 24 May 79 to the Administrator, DTIC (then DDC) as follows:

To us, the participants, it seems that coequal opportunity to participate actively in decision-making processes affecting SBIE\* is desirable. We, as well as you, are expending resources in the hope of bringing SBIE to a successful conclusion. We feel that as a group, we have much to contribute to your decision-making process. It is to this end that we are addressing you about this matter and hope that together we can proceed and indeed show the feasibility of shared cataloging in the DDC environment and initiate a DDC-based shared cataloging system for technical reports serving both your and our needs.

\*SBIE stands for Shared Bibliographic Input Experiment, the forerunner of SBIN.

The mechanism suggested for such communication was an advisory group. An ad hoc committee composed of both DTIC and SBIN members worked on the concept during the following year. In Sep 80, a meeting of the original sites with the DTIC Administrator was held at the Institute for Defense Analyses (IDA). Out of these discussions came a definitive basis for a permanent advisory group called the Resource Sharing Advisory Group (RSAG), along with an agreement on RSAG's membership, officers, and responsibilities.

The chartered purpose of RSAG was "to provide advice and make recommendations on matters dealing with the DTIC Shared Cataloging program and other resource sharing activities." Members were to be nominated by the DTIC Administrator, with at least six members representing SBIN sites. The first RSAG meeting took place in Oct 80, at which Mr. Norman Varieur, Army Armament Research and Development Command, was elected to serve as the first chairperson.

RSAG meetings are held every 6 months at various member locations. At the meeting held 12 and 13 Aug 82 at IDA, Alexandria, Virginia, Mr. Peter Imhof, Naval Research Laboratory, was elected the second chairperson. Mr. Imhof, in his new position, reported on the meeting to the SBIN conference. The items he related included the following:

1. DROLS Backup. SBIN sites need a backup to their on-line catalogs when DROLS goes down. RSAG enhancement request 82-4, "SBIN Requirement of Local System Backup," was presented to RSAG. Both Computer Output Microfiche (COM) and videodisc applications were discussed. It was pointed out that optical digital discs are at the leading edge of technology and may be operational in the 1985-88 timeframe. Concerning COM, a study is in progress at DTIC as a result of RSAG enhancement request 81-1, "COM Fiche Indexes." Both these technology applications could serve as a backup for the Technical Report (TR) data base. It was emphasized that a present and future backup is necessary.

2. Title Searching. As a result of RSAG enhancement request 82-1, "Title Word Searching," DTIC has provided title searching capability for 10 years of the Technical Report file and all of the Current file. RSAG strongly recommends extending this capability to include the entire TR data base for duplicate checking.

3. Multimedia. Mr. Imhof commented on the fact that more and more reports are appearing on, or including, microform and recognized DTIC's development of procedures to accession them for secondary distribution.

4. Network input of reports not site-originated. Mr. Imhof commented on SRIN input of bibliographic citations to DROLS of reports from outside sources. There is an expanding problem of report originators not wanting their reports accessioned into DTIC, nor, in some cases, wanting a record on line for DROLS display. Possibilities stated at the RSAG Meeting for handling this problem include: (a) not handling outside documents until the Local Automation Model (LAM) is established (see summary on Local Automation Model, p. 4); (b) handle on a case-by-case basis; (c) urge DTIC to strive to make DROLS a mandatory data base (see DoD Directive 3200.12, DoD Scientific and Technical Information Program); (d) input reports as received unless caveated. This problem has been referred to the Scientific and Technical Information Program (STIP) Subcommittee on Operations.

5. Demonstration of Intelligent Gateway Computer System (IGCS). The Technology Information System (TIS), an intelligent gateway computer, was demonstrated at the RSAG meeting. TIS provides authorized users automated access to diverse data bases, downloading of bibliographic and numeric data, and postprocessing of bibliographic citations. Electronic mail and graphics capabilities are also provided by the system. Lawrence Livermore National Laboratory (LLNL) is developing TIS under guidance from the Department of Energy (DOE), the National Aeronautics and Space Administration (NASA), and DTIC.

MEMORANDUM OF UNDERSTANDING (MOU) BETWEEN DTIC AND SBIN SITES

Ms. Gladys Cotter  
SBIN Project Manager  
Defense Technical Information Center

The purpose of the MOU is to document the responsibilities and benefits of the SBIN program in a businesslike manner. The DTIC Administrator has requested this formal procedure as a way of optimizing the SBIN effort. The MOU is as follows.

MEMORANDUM OF UNDERSTANDING BETWEEN  
DEFENSE TECHNICAL INFORMATION CENTER AND (SBIN SITE)

I. PURPOSE

The purpose of this MOU between the Defense Technical Information Center (DTIC) and the (SBIN Site) is to document the benefits and responsibilities of participation in the Shared Bibliographic Input Network (SBIN).

II. OBJECTIVES

Objectives of (SBIN Site)-DTIC Cooperation:

1. To contribute to the mission of DTIC in a mutually beneficial program of information gathering and dissemination.
2. To facilitate resource sharing among the DoD technical information community.
3. To provide a standardized method for document cataloging throughout the network.
4. To provide an easier, more effective and timely/economical procedure for submitting locally produced documents to DTIC in accordance with DoD Directive 3200.12.
5. To develop an on-line interactive catalog of documents held in local libraries in order to improve access to local collections and to simplify local record-keeping and file maintenance procedures.
6. To provide a means of document storage, retrieval, and dissemination in a cost-effective manner.

7. To provide early notification to the DoD community of reports being produced by (SBIN Site).

### III. PROVISIONS

#### 1. DTIC will:

##### a. Continue those products, services and policies now available:

(1) On-line retrieval from the DTIC data bases through dedicated and dial-up terminals and on-line input through dedicated and dial-up terminals.

(2) Multilevel data bases containing both classified and unclassified data; classified information available on-line through appropriate terminals; and, classified documents available from DTIC.

(3) Microfiche archive of all documents submitted to DTIC through (SBIN Site) and dissemination on demand, subject to mutual prearrangement.

(4) No charge for input on line.

(5) Consideration of (SBIN Site) recommendations for addition to DRIT posting terms.

(6) Retention of (SBIN Site) selected and input subject and identifier terms on DTIC records except in the case of global changes for authority control.

(7) Automatic field 48 tag for ADD documents sent to (SBIN Site).

(8) Printouts (or COM copies) of holdings.

b. Continue to develop and implement products and services approved for system inclusion through the RSAG request process which are mutually beneficial to DTIC and its user community.

#### 2. (SBIN Site) will:

a. Actively solicit document input from (SBIN Site) activities.

b. Catalog and input (SBIN Site) document citations to DTIC in accordance with established rules, procedures, and formats.

c. Submit to DTIC full-text copies of documents produced by (SBIN Site) in all instances permitted by regulation and of interest to DoD.

d. Provide DTIC with input estimates, cost-benefit figures, statistics, and other management information as required.

IV. TERMINATION

This agreement may be terminated at any time by either party by giving a minimum of one hundred eighty (180) days notice to the other party. If DTIC terminates the agreement due to any degradation or dispersion of DTIC services provided to (SBIN Site), DTIC will provide an archival, tagged data base in machine-readable form and DROLS-compatible system software.

V. MOBILIZATION

This agreement will remain in effect in the event of mobilization subject to review and modification as indicated by conditions existing at the time of such eventuality.

VI. AGREEMENT

The Commanding Officer, (SBIN Site), and the Administrator, DTIC, agree to the terms of this Memorandum of Understanding.

\_\_\_\_\_  
(Chief Official)  
(SBIN Site)

\_\_\_\_\_  
Administrator  
Defense Technical Information Center

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

HOLDING DOCUMENTS AND SBIN DOCUMENT INPUT POLICY AT DTIC

Mr. Frank Greer  
Selection Section  
Defense Technical Information Center

SBIN now has 30 sites and continued expansion is scheduled. The growth of SBIN presents the problem of an enlarged backlog burden if a policy of holding back site reports is retained. Originally, technical reports were held to allow sites to do their own cataloging, in place of DTIC, as a hands-on training device.

These reports have been held as a backlog in DTIC's Selection Section, remaining on the shelf anywhere from 3 weeks to 3 months waiting for a SBIN site input record. This creates a lag between the DTIC document selection process and the time that a document record is available for display on line. The selection process entails reviewing all documents prior to entry into the DTIC collection for acceptable technical information; correct dissemination information; security statements; problems with titles, report numbers, dates, missing pages, classified references; and, other points of possible irregularities.

The SBIN Point of Contact in the Selection Section removes SBIN participant documents during the initial review process for holding. He waits for site input, receiving AD-E/F printout records at the end of each 2-week Technical Abstract Bulletin (TAB) cycle. He then matches the records with the SBIN participant documents and reinitiates the review process. Any problems found, as stated above, are checked by telephone or by form letter to the appropriate controlling office. Acceptable SBIN-originated documents are then processed into the TR data base, using the SBIN record, and converted to DTIC computer control for secondary dissemination.

The problems, therefore, are:

- Announcement time lag caused by holding documents.
- DTIC backlog burden.
- Additional processing of documents for reviewing and removing from the selection process, merging of SBIN records and held-back documents, and reentry of the documents into the selection review process.

This procedure obviously hinders timely announcement of technical reports. It is necessary, therefore, that SBIN move toward its goal of true shared cataloging, i.e., duplicate checking by all SBIN sites, searching the DTIC Current and TR files, and creating a record for any document citation not already in the TR data base. DTIC/SBIN Notice No. 15 states, essentially, that all sites, including DTIC, will "dup-check" all reports as they are received and input as appropriate. This procedure should test the effectiveness of DTIC/SBIN dup-checking, aimed at announcing documents earlier. DTIC proposes that sites try this procedure for 6 months and evaluate the results.

For information on SBIN policy, call Ms. Gladys Cotter, SBIN Project Manager, (202) 274-7661/AV 284-7661; for questions on document input call Mr. Frank Greer, (202) 274-6801/AV 284-6801.

## MULTIMEDIA INPUT

Mr. John Dickert  
Information Systems Division  
Defense Technical Information Center

To expand the types of document media in the DTIC Technical Reports collection and data base, DTIC has set up an experimental project to accept the following four media:

1. Camera-ready (original) documents. These documents are loaned to DTIC for the time required to process them into our system. After processing, DTIC returns the loan to its lender. It is also projected that DTIC will eventually act as a principal distribution point for these documents. Contact DTIC for further information about the quality expected in camera-ready copy and to ascertain the time DTIC expects to hold the loans (now about 6 weeks).

2. Microfiche. DTIC is now accepting microfiche for input into our TR data base. The microfiche should comply with DTIC standards and contain space for the appropriate DTIC header information. For information on submitting microfiche in place of hardcopy documents, please call DTIC for appropriate specifications.

3. Documents with microfiche inclusions. These are documents which contain inserts in microfiche, such as data lists or COM tables. The only requirement is that the microfiche be capable of legible duplication. We are encouraging sites to include such reports in the SBIN program. When inputting into the TR data base, enter in field 21: "Includes (number) microfiche inserts." Please attach a cover notice to such documents indicating they are part of the Multimedia Project and contain microfiche inserts. Send these documents to DTIC, ATTN: DDAC (Mr. Paul Cooper).

4. Documents with site-controlled distribution. This concerns the inclusion of citations in DROLS in which distribution of the document is controlled completely by the originating site. Such citations will not be announced in TAB. DTIC receives such citations in the form of loan documents, SBIN input, and documentless DD Forms 1473, Report Documentation Pages. It is important that the 1473 category include good abstracts (informative, not descriptive, with a limit of about 300 words), and it is helpful if the 1473s include copies of the title page, table of contents, introduction, and conclusion. These reports should be sent to DTIC, ATTN: DDAC (Mr. Frank Greer), with a cover letter indicating their inclusion in Phase 4 of the Multimedia Project as a documentless citation.

DTIC is now encouraging the input of documents with microfiche attachments, but the other types of documents will be readily accepted under the appropriate specifications. For information about the Multimedia Project, please contact the DTIC Project Officer, Ms. Carlynn Thompson, DTIC Information Systems Division (DTIC-JB), (202) 274-5367/AV 284-5367.

References: DTIC/SBIN Notice Nos. 37 and 38.

## PROCESSING OF COMPILATIONS

Mr. John Dickert  
Information Systems Division  
Defense Technical Information Center

In an effort to provide access to individually authored papers within unclassified/unlimited compilations, DTIC has established a project to catalog compilations (for example, symposia, proceedings, and yearly research reports) in two ways. The compilation document will continue to be processed as a single document. Additionally, each of the individual papers will be processed under a separate AD number within a distinctive AD-number range, AD-P xxx xxx. Their bibliographic information will be available on DROLS and in Current Awareness Bibliographies, but not as part of the Automatic Document Distribution (ADD) program. Also, the individual papers may be ordered in either microfiche or hard copy. They will not appear, however, in TAB.

Currently, DTIC is processing only unclassified/unlimited compilations. But, if the project is a success, we plan to extend the program to unclassified/limited reports, and then to classified compilation documents. DTIC is encouraging sites to incorporate this project into SBIN. If a SBIN site wishes to input compilations also as component individual papers, the following guidelines should be followed:

1. Duplicate check the compilation document and all the component papers planned for entry.
2. Assign AD-E or AD-F numbers to each component, and write them sequentially on the first pages of the papers.
3. Input a record for each AD number assigned, but do not flag the records until all have been input; flag them all at the same time.
4. Staple a card to the front of the document indicating "SBIN Compilation Report" to alert DTIC personnel for compilation processing.

If you have any questions or comments, please contact either the Project Officer, Ms. Carlynn Thompson, DTIC Information Systems Division, (DTIC-JB), (202) 274-5367/AV 284-5367, or Ms. Gladys Cotter, SBIN Project Manager, (202) 274-7661/AV 284-7661.

References: DTIC/SBIN Notice Nos. 35 and 36.

AD-POOL 899



CIRCANET AND THE DTIC INTERFACE

Judy A. Hawthorne  
Chief, Technical Library  
Training and Doctrine Command

The Ft. Bliss/White Sands Automated Circulation System and On-Line Catalog Network (CIRCANET) has undergone many changes since its birth at the Army Library Institute in August 1980. CIRCANET was originally proposed as a network of the four Training and Doctrine Command (TRADOC) libraries located at Ft. Bliss, TX, and White Sands Missile Range (WSMR), NM. In February 1981, CIRCANET was expanded to include the two Army Materiel Development and Readiness Command (DARCOM) libraries on WSMR. CIRCANET is considered by the TRADOC Library and Information Network (TRALINET) to be an excellent pilot test site for a networked system because the CIRCANET libraries include the three major library types, i.e., morale support (comparable to a public library), academic/school, and technical. The participating libraries (figure 1) are:

- Ft. Bliss Morale Support Library
- Sergeants Major Academy Learning Resources Center (LRC)
- Air Defense Artillery School (USAADS) Library with its Combat Developments Branch Library and Library Services Branch (Also services Sergeants Major Academy LRC)
- TRADOC Systems Analysis Activity (TRASANA) Technical Library
- WSMR Technical Library
- WSMR Morale Support Library

The reasons for acquiring an automated, networked circulation system are:

1. To provide more accurate and efficient control of the library collections.
2. To improve management of library resources and the efficiency and scope of services rendered to library patrons.
3. To provide rapid, more efficient, resource sharing among the participating libraries.

# CIRCANET

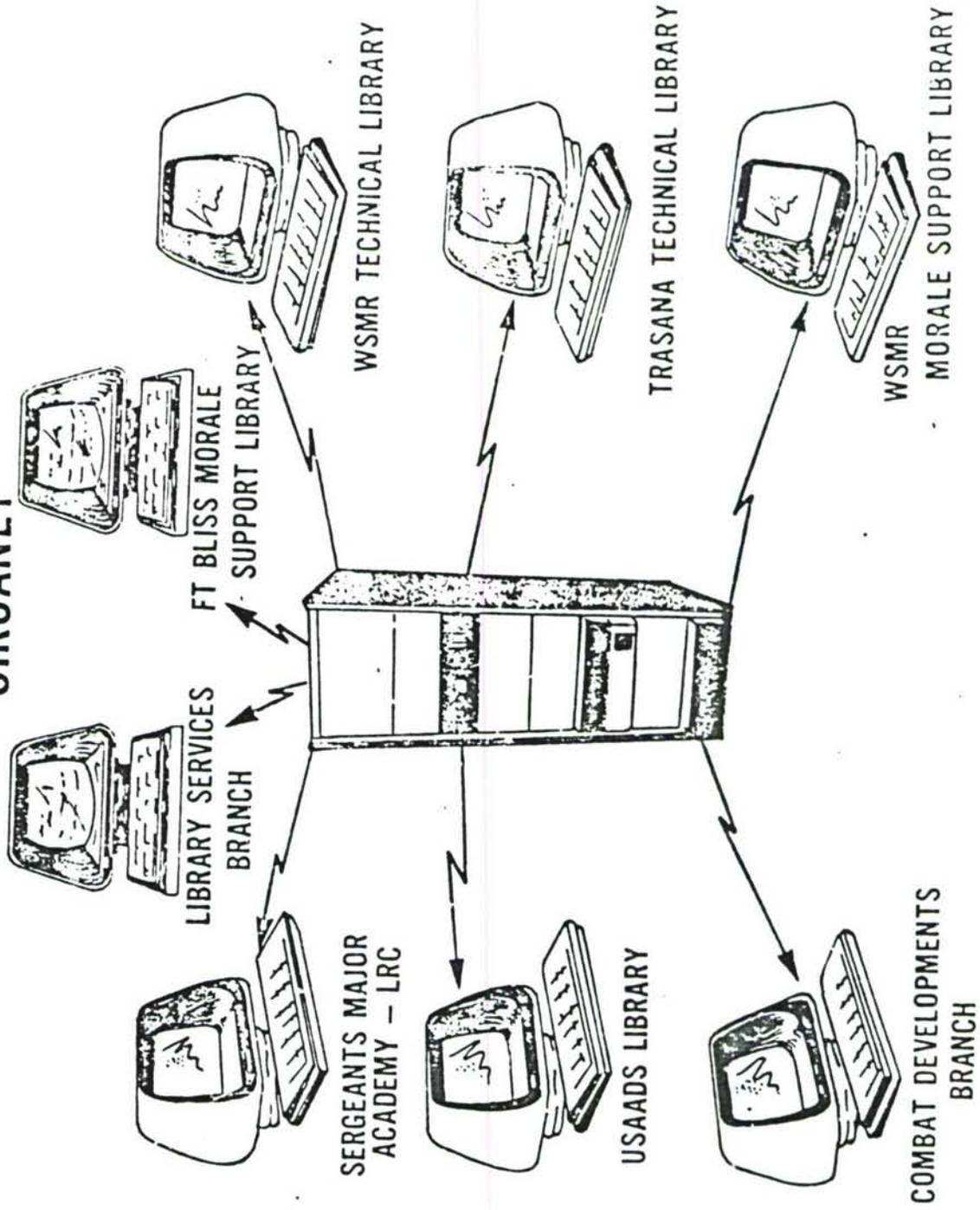


Figure 1

4. To allow more time for professional support of library users by reducing time-consuming, manual operations.
5. To provide for rapid compilation of bibliographies.
6. To provide more rapid service to users.
7. To introduce the efficiencies gained by new technology into these six area libraries in the most economical manner through sharing of automated hardware and software resources.

The proposed system is a fully interactive inventory and circulation control system supported by a minicomputer with networking capability for up to 50 terminals as well as dial-up access. It is an interactive and real-time system.

Due to the 50-mile separation between Ft. Bliss and the Missile Range, the CIRCANET participants will be networked using concentrator modems and local communications lines into the minicomputer located at the Automation Management Office at Ft. Bliss. Figure 2 is a schematic of the telecommunications for CIRCANET. Several of the libraries will have more than one node in the system due to the physical separation of document collections from open literature areas.

The existing collection for the CIRCANET libraries is 254,000 monographs and 207,000 technical reports. Initially, the libraries in CIRCANET will service 50,000 patrons with an annual circulation of 374,000 transactions.

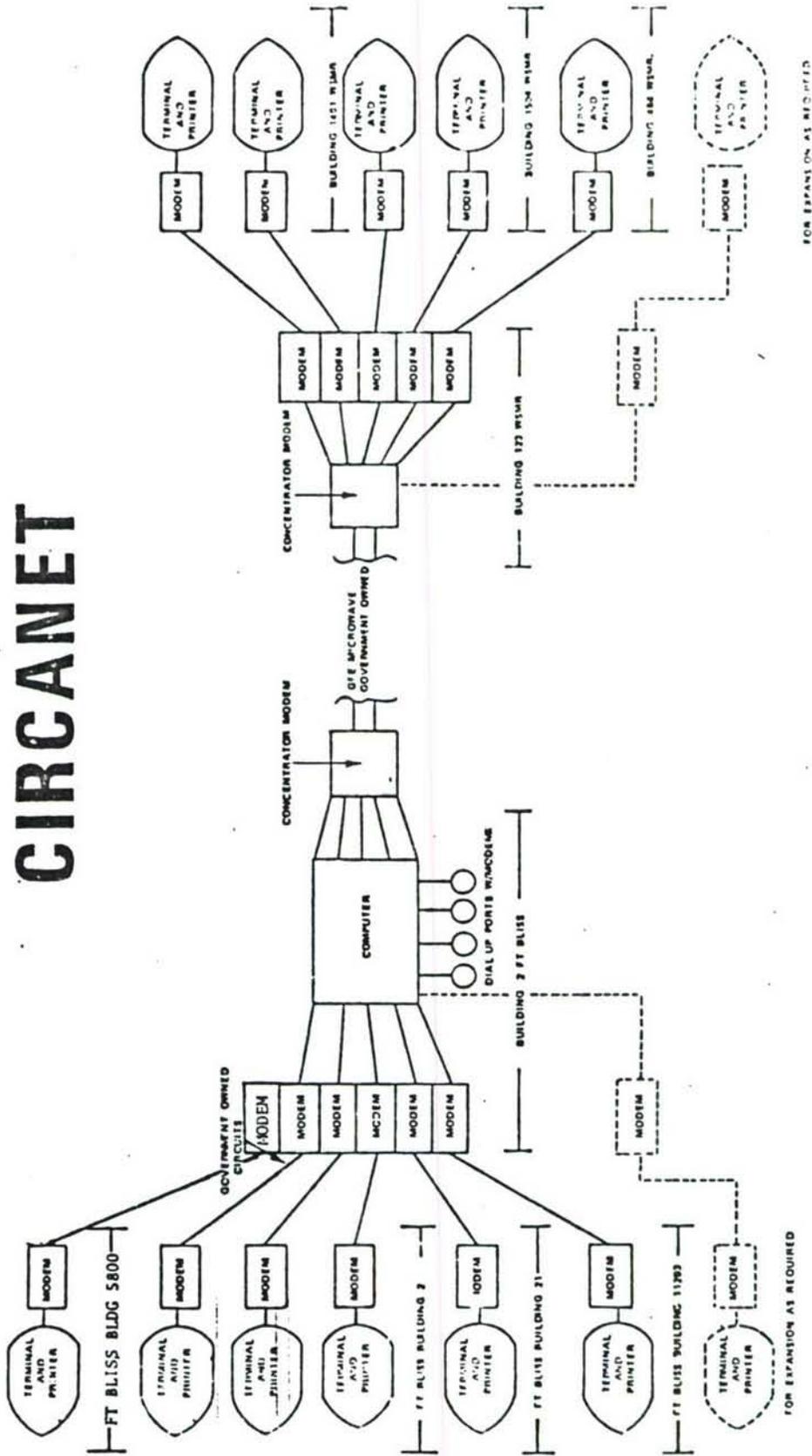
Since CIRCANET is proposed as an on-line catalog, the participants are in the process of converting the manual records into a machine-readable form. The SBIN is being used by the TRADOC libraries as the conversion method for obtaining machine-readable records for their document collections.

In the process of development of the CIRCANET requirements, we conceived a flowchart (figure 3) of the ideal system.

This system needed to include four processes:

1. Circulation
2. Cataloging
3. Query
4. Selective Dissemination of Information (SDI)

# CIRCANET



FOR EXPANSION AS REQUIRED

Figure 2

# CIRCANET DESIRED SYSTEM PROCESSES FLOWCHART

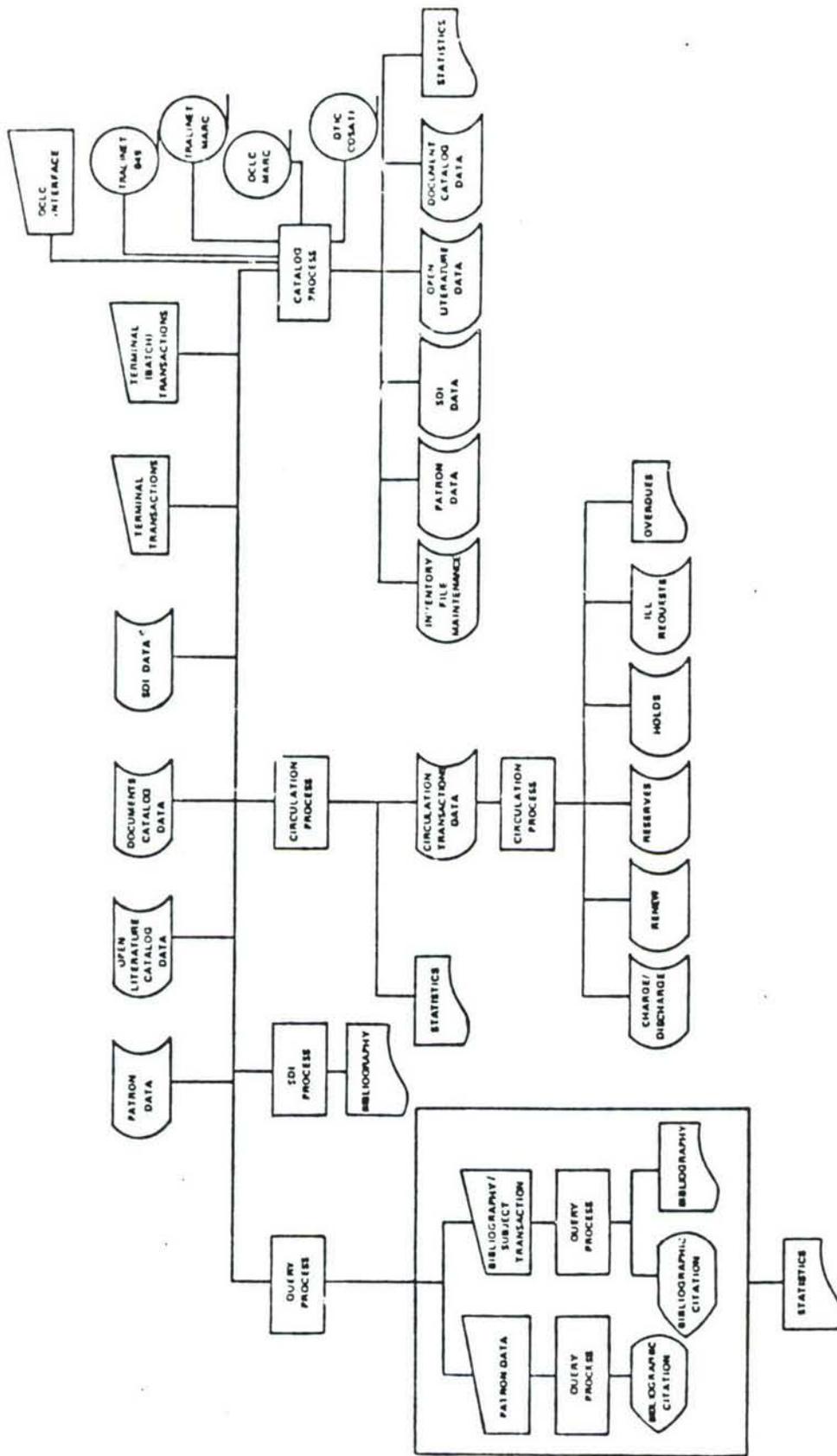


Figure 3

It also needed to handle various types of data:

1. Patron
2. Open Literature
3. Documents
4. SDI or Periodical

There were also requirements to handle multiple libraries as individual entities within one system and to accept multiple types of input.

In reviewing the systems which were available in March 1982, it was determined that no system met all the requirements. In weighing the options available, it was determined that the Integrated Library System (ILS) gave the best chance of meeting our requirements since we would own the program and could have the additional requirements programmed. In discussions with Mr. Goldstein of the Lister-Hill Center for Bio-Medical Research, National Library of Medicine (NLM) - developer of ILS - it was determined that CIRCANET had the following 10 generic requirements which Lister-Hill would develop for CIRCANET:

1. A branch library capability which would allow the participating libraries to use the system to retrieve and/or edit their own records only or all records in the system.

2. An SDI function which would allow individual library patrons to receive a list of current accessions in chosen subject areas for which they have specified a continuing interest. This function would provide for accepting data about periodical articles and a program for matching patron subject areas of interest against new periodical or document records on a monthly basis.

3. A security/need-to-know function with the ability to exclude system access by terminal and by patron, and to match the patron's security clearance and need-to-know with that of a document. While no classified data will be contained in CIRCANET, the documents' data are considered to be DoD sensitive.

4. Institution of a loan matrix for automatically determining loan periods based on the intersection of material type, patron type, and owning library.

5. Meditech Interpretive Information System (MIIS), the operating system for ILS, assigns a specific baud rate to each dial-up port. CIRCANET has requested a modification of the dial-up ports so that each will switch automatically to accept the baud rate of the incoming transmission.

6. Back-up recording devices for recording and storing transactions during system downtime as well as for performing inventory control functions in any location in the system such as a stack area. There is a possibility that this back-up function could be performed by the portable terminals now being developed for the Army Library, Pentagon, to handle the inventory control function there.

7. Automatic generation of a receipt for classified documents bearing the patron's signature.

8. A calendar booking function for recording bookings of items not in the bibliographic collection such as audiovisual equipment, conference rooms, personnel leave, etc.

9. Electronic mailbox capability within CIRCANET.

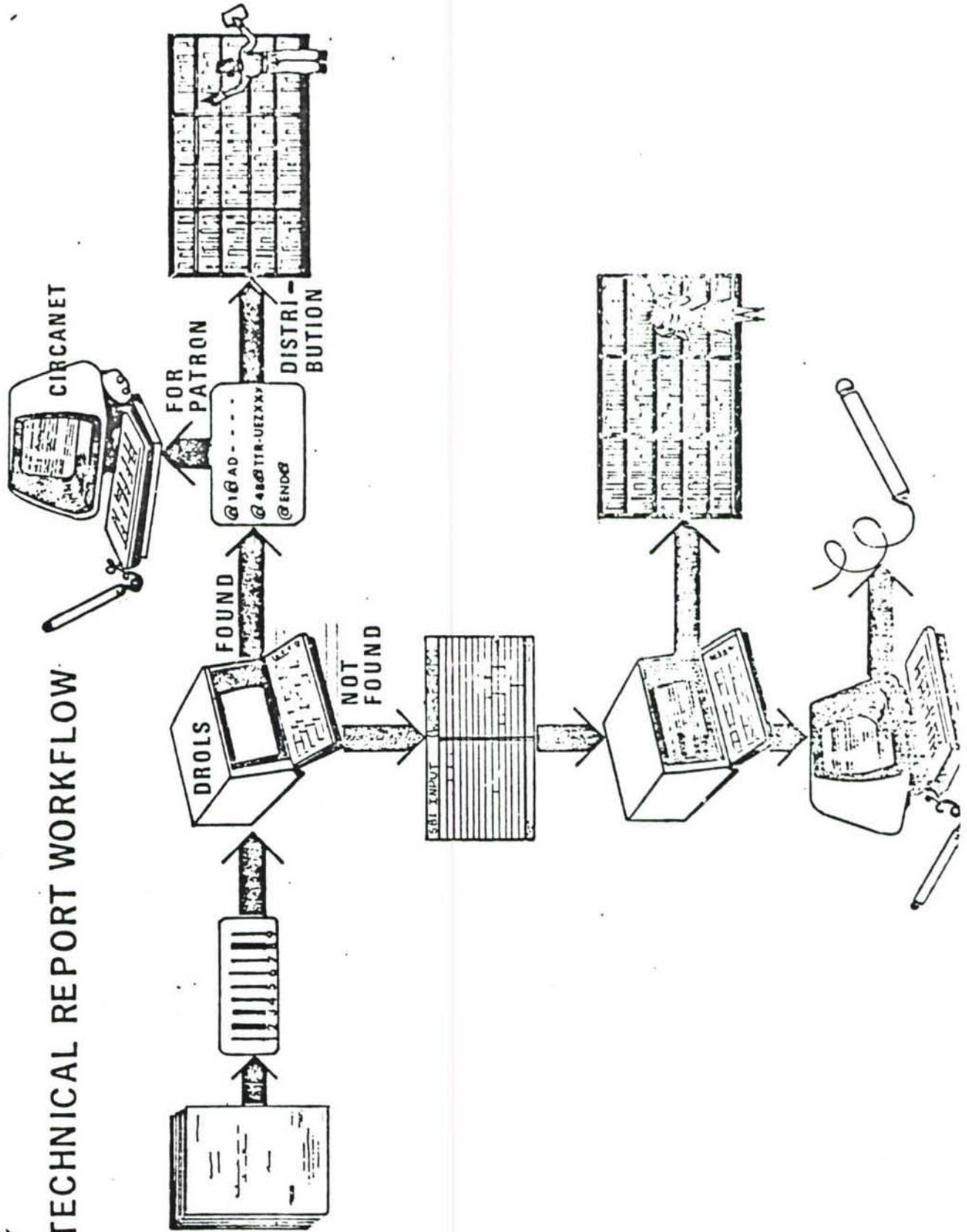
10. A reserve function with the capability to process a request for any title or item in the system to be segregated and placed in the reserve location for limited use.

Several other requirements, identified for CIRCANET were already in the process of being developed for ILS with most of them programmed for release by December 1982.

With the implementation of CIRCANET, the TRASANA Technical Library will initiate Phase 4 of the SBIN Program. The proposed workflow for incoming technical reports is shown in figure 4. Upon arrival, each report will receive a dumb bar code. DROLS will be searched to establish if a record for the report exists. If a record is available, the holdings information will be added. At this point, reports that were received on automatic distribution will then be shelved and reports for a specific individual will have temporary records containing the AD number, title, copy number, and bar code input to CIRCANET then checked out to the patron. Those reports for which no record was found in DROLS will be sent to the cataloger. Once the cataloging data is established, it will be input to DROLS if it's a DTIC-type document or directly into CIRCANET for non-DTIC-type documents. Reports for a patron whose cataloging data was input to DROLS will have a temporary record established in CIRCANET prior to check-out. Automatic distribution reports will just be shelved. Once a month DTIC will be requested to furnish an unclassified tape of all new submissions made by the CIRCANET libraries.

In the TRASANA Technical Library, three conditions could exist regarding a report. The report could be in microfiche or hardcopy or in both hardcopy and microfiche versions. TRASANA has structured its holdings code to reflect one of these conditions (figure 5).

# TECHNICAL REPORT WORKFLOW



## HOLDING FIELD INFORMATION

- MICROFICHE ONLY = HOLDING CODE  
@48@TTR
- HARDCOPY ONLY = HOLDING CODE - SHELF NUMBER  
@48@TTR-U821098
- BOTH HARDCOPY AND MICROFICHE = HOLDING CODE -  
SHELF NUMBER/mf  
@48@TTR-U821098/mf

Reports that are on microfiche are signified by the presence of the holdings code. Since at least 30 percent of the hardcopy collection will not be available through DROLS, a unique index number is assigned to each hardcopy report. The presence of the first seven digits of the index number following the holdings code indicates that only a paper copy is available. If both a microfiche and hardcopy of the report are available, field 48 will contain the holdings code and the index number followed by a slash "mf." Using this method, the location, file number, and media of a report can quickly be determined.

The Air Defense Artillery School Library (USAADASCH) is also signifying the media type in field 48 since they file by AD number regardless of type; the letters "hc" and/or "mf" follow the holdings code. The USAADASCH Library also has a branch library with a collection similar to TRASANA's. The letter "c" following the holdings code will signify that the report is at the Combat Developments Branch Library. We have yet to resolve what will go in field 48 if both the branch and main library hold the document.

The following problem areas have been identified in using DROLS for input cataloging:

1. For over a year, TRASANA has been using the hardcopy indexes as its catalog for those items which have been tagged. It wasn't until work was started on identifying and tagging records for the hardcopy collection that a problem with this type of catalog surfaced. For any collection that is in other than AD-number order, there is no way to use the indexes to obtain the index number from the field 48 information. TRASANA is requesting through the Resource Sharing Advisory Group (RSAG) a system enhancement to include the field 48 information along with the AD number on all printed indexes.
2. The very slow response time has forced us to use the batch system for tagging records but a great deal of time is still wasted in the searching and input of original records. Hopefully the new front-end computer will alleviate much of this problem.
3. The activity of the terminal and transmission of information are problems which seem to be increasing. Many times the terminal will show that the system is active and polling a site, but the site is really in a contingency status. Or, the system may act like it has picked up a transmission when no transmission was sent. Also, a transmission may be sent to the computer for which an acknowledgement is received but for which no other response is received. This data must be retransmitted in order to obtain results. In both cases, time is being wasted that can be put to better use.
4. The transparency of the holdings symbol is a definite detriment to using DROLS for a network since the network participants can not see what the others have until the data has been transferred to the local automation model.

5. Participation in SBIN means input of records about newly generated documents into DROLS and then getting the document to DTIC. Unfortunately, TRASANA has been experiencing great difficulty in performing the second part of the task. Army regulations state that until a report has been approved by the headquarters element, it will bear a limitation statement of "DoD only," a statement which DTIC can not accept. In close to 2 years of SBIN participation, over 30 records have been input but only seven of these reports have gotten to DTIC. TRASANA is working closely with DTIC on a method for solving this problem.

At the present time, funding has been received for CIRCANET for Fiscal Year 1983 from the Office of the Secretary of Defense Productivity Investment Fund. Approval was received from Department of the Army to procure ADP equipment December 1982. The request for proposal will be forwarded to contracting February 1983. It is hoped that the contract will be let by August 1983, with the installation of the equipment before January 1984.

AD-POOL 900

HOW LIFE HAS CHANGED AT CARL

Ms. Barbara Everidge  
Systems Librarian  
Combined Arms Research Library

When DTIC began SBIE 5 years ago, the founders drew up a set of objectives which included improving life in the local participating libraries, a return on investment for staff effort expended in the program. When the Combined Arms Research Library, an institution supporting the U.S. Army Command and General Staff College at Fort Leavenworth, Kansas, first began participating in SBIE, we took these local objectives to heart. The implementation of new procedures required by, and facilitated by, SBIE has changed life at CARL -- very much for the better.

The Documents Center at CARL -- our library also has an extensive book and periodical collection, not within the scope of SBI -- contained about 100,000 documents in 1980 including student and staff studies, technical reports, historical studies and after-action reports. They were cataloged and shelved using systems and authorities completely "home grown" over the 40-plus years the library has been supporting a documents collection. More detail about the former system will be included in the discussions below, contrasting it with the system now in place, SBIN.

Keeping in mind that the library exists solely for the service it provides to patrons, let us look first at the changes out front, the "library/patron interface." Under the previous system, a visitor to the Documents Center first consulted the card catalog. In the card catalog, all main entries are under title. As many as twenty additional access points -- corporate author, personal author, series number, subject headings including popular titles such as the Brown report, etc. -- lead patrons to the shelves. Documents were shelved by a call number consisting of the medium if other than paper (e.g., MF indicating microfiche), the classification of the document, a 5-digit number representing the source of the document, a 1- to 4-digit accession number for that source, a part or supplement number, volume number and copy number. The call number, in fact, was so complex that in our in-house, machine-readable data base, the call number required a 29-character field. The documents were shelved by classification in three separate sections of the Documents Center: unclassified and confidential (open stacks) and secret (closed stacks). The patron unraveled the mysteries of the card catalog and its nonstandard cataloging system, deciphered the shelving number successfully and retrieved the document desired in fewer than one-fourth of the attempts.

Most patrons would then try a search of the DTIC data base. At that time we were training our patrons, primarily faculty and students of the College, to perform their own DTIC searches. To be sure, little time could be spent teaching more than just the basic retrieval and display commands. But with this limited knowledge, most patrons could identify through DTIC some documents that might be helpful to their research. The patron asked the librarian to order the appropriate documents and a week or so later the material arrived. Because of the simplicity of the patron's DTIC search (compared to the specificity of a fully trained librarian's search of DTIC on the same topic), often material was not what was required and a good deal of pertinent information was missed. The bottom line: we estimated that fewer than 1 patron in 10 left satisfied after his/her first visit and fewer than 6 in 10 were satisfied at all. Not surprisingly, the Documents Center resources were used by very few patrons.

Today, more than 9 in 10 patrons leave the library after their first visit with at least one pertinent document. When a patron comes to the Documents Center now, a reference librarian listens to the request, constructs the DTIC search strategy with the assistance of the patron and DTIC Retrieval and Indexing Terminology (DRIT), and runs the search using all the sophisticated commands now available with DROLS. The reference staff is well trained on the terminal and keeps up to date on new commands and capabilities; important new functions such as key word search of title make finding information in the system much easier and faster than in the late 1970s. Our holdings code in field 48, a product of SBI, indicates immediately to the librarian which documents we hold and which must be ordered. Documents whose records are included and tagged in the DTIC data base are now filed by AD number. The documents themselves, mostly in microfiche, are located in cabinets adjacent to the DTIC terminals. (If a document is held in paper or in microfilm, a dummy in the microfiche file so indicates; paper documents are on shelves and film is in a nearby film cabinet.) Interestingly, when as few as 13,000 document records in DTIC were tagged with CARL's holdings code, more than 90 percent of the on-line searches identified at least one tagged document. Today, more than 30,000 records are tagged, and it is a rare search that has no tagged hits. These 30,000 include records input through SBI (over 700 to date), records identified during duplicate checking, records located for CARL's retrospective holdings, and records for microfiche received and automatically tagged by DTIC as part of its Automatic Distribution of Documents (ADD) program.

So service to the patron has improved considerably. To be sure, some improvement resulted from changes other than initiation of SBI (for example, we discontinued training patrons to conduct their own searches some time before we began SBI). But this improvement comes in spite of deteriorating service from DTIC and/or the U.S. Postal Service, to wit, documents (in paper) which used to arrive 7 to 10 days after request now take 2 weeks or more to reach Leavenworth. It is fortunate that only a small percentage of patrons must now wait for mail from DTIC to satisfy their information requirements. (Interestingly, the number of documents custom-ordered from DTIC has remained almost constant since 1978; see figures 6 and 7.)

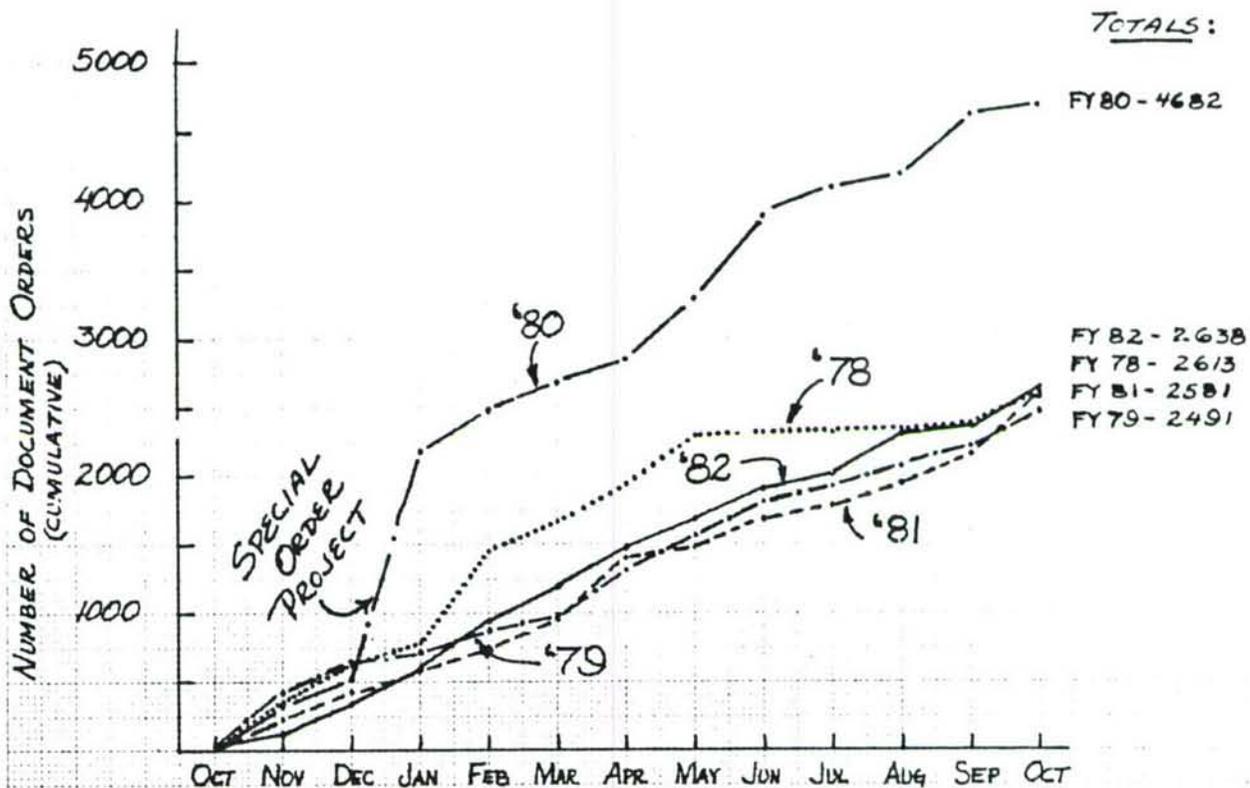


Figure 6 - Cumulative number of document orders, per year. Special order project in 1980 involved ordering some 2000 documents for collection development. (Special order project figures omitted in figure 7.)

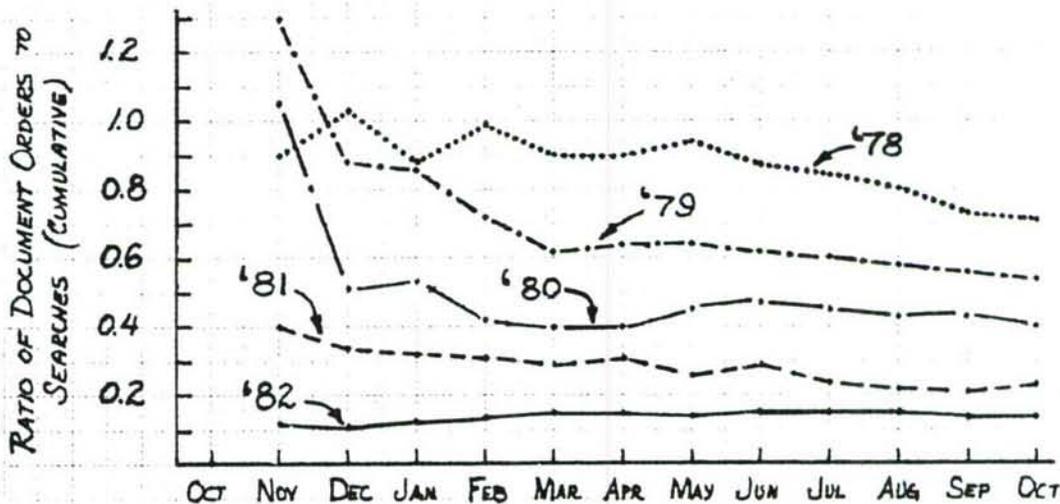


Figure 7 - Graph showing decrease in the number of documents ordered per search. Graphs for 1980-92 are artificially low due to inclusion of dup-check searching. However, the trend illustrated here is valid.

Fewer and fewer patrons these days consult the card catalog, although we continue to keep that tool up to date for the non-DTIC materials. Of course, such dependence on the DROLS terminals makes downtime very disruptive. CARL has experienced continuing problems with the equipment installed: one U100 terminal and Communications Output Printer and one U200 terminal and 786 bidirectional printer, multiplexed through a Paradyne modem to a circuit which is multiplexed through St. Louis and again through the Pentagon to DTIC. Couple these equipment difficulties with the problem of slow response and downtime at DTIC, and life at CARL also gets more anxious. Our backup to the on-line system consists of printed indexes from DTIC; every 3 months we order indexes (but not the bibliography itself) to a bibliography comprising all citations tagged with CARL's holdings code. These indexes cannot provide the Boolean search capability of the on-line system, and they are quickly out of date; however, for the material they cover, they are as good as, if not better than, our card catalog access was to the same materials. These indexes will soon be available from DTIC on COMfiche.

The major differences at CARL behind the scenes are in the cataloging process. The original cataloging process went something like this:

1. Acquire the document, usually in paper, most often from our being on an agency's distribution list.
2. Consult an alphabetic list of sources to determine the 5-digit source number under which the document would be shelved. Assign the document an accession number for that source and record the document title and date on the source number card to track the accession (and to eliminate duplicates).
3. Prepare an accession card. This card included standard bibliographic information as well as other data such as postal registry number, regrading information, date when document should be reviewed for retention, number of copies, etc. This card was also used to record and change to the document received, changes in classification, destruction certificates, and other actions affecting the document. These cards were filed by call number in the shelflist.
4. Enter the call number, title, source, and date in a ledger called the Main Entry Listing. This ledger duplicated information also on the catalog and accession cards and was in the same order as the accession card file (our shelflist). It was compiled because individual accession cards were often removed from the shelflist for a variety of reasons (including recording circulations on occasion) and ran the risk of being lost.
5. Prepare a main entry catalog card. Subjects were assigned from a subject authority listing developed over the years by the catalogers at CARL. From the main entry card, type a complete card set, proof, and file in the card catalog.
6. File a carbon copy of the accession card in a suspense file by date of review, date of regrading action, or date of declassification.

7. Enter all this information -- bibliographic data, copy numbers, regrading information, etc. -- into the machine-readable data base. Our in-house automated system, called ALIS (Automated Library Information System), required a record for each copy of each document. Ironically, the automated circulation system, the raison d'etre of ALIS, did not require the data base; it recorded circulations from a punch card specifically prepared for circulation. The circulation function was entirely independent of the machine-readable data base; in fact, the data base was used for nothing other than compiling management reports! However, a record for each document received was dutifully entered into the data base.

8. Prepare an 80-column punch card for circulation purposes.

To be sure, all these files were established and maintained for very valid reasons. However, by 1980, the file maintenance effort required staff hours the library could ill afford.

Enter SBI: Today's cataloging procedure for documents which can be included in DTIC consists of duplicate checking (if a record is found, it is tagged and the document is filed), preparing and inputting an SBI citation, and tracking the document and citation through the step when it is converted from an SBI to a DTIC record (i.e., when it receives its final AD-A, B or C number). Of course, the process of cataloging, inputting, correcting, flagging, and tracking the SBI citations has its own complexity, but we are working with only one record in place of the seven manual records of the old system. And the fact that so many of those documents we obtain are already in DTIC reduces the number of documents we have to catalog in the first place.

Notice now we have omitted the circulation control step (Step 8). In the old system, we prepared a punch card for every document that might be charged out. Today, we wait until a document is presented for check out; then we simply record the AD number on a standard book check-out card and have the patron sign it. Thus we have exchanged a manual cataloging/retrieval system and an automated circulation system for an automated cataloging/retrieval system and a manual circulation system. It's better; this is one instance where the automation of a function (circulation) was more costly by far than the benefits derived from it warranted.

We also no longer worry about copy number (unless the document is classified). With DTIC serving as an archive, and with microfiche copies of our documents available at very little cost, we do not track the number of copies held. If we need a copy (or another copy) of a DTIC document, we order it. If a patron fails to return a copy of a document, we simply order a replacement. This system, of course, depends on DTIC's current pricing structure. Should this pricing structure change, we will reevaluate the policy. One principal reason for this policy is that the DTIC record, now CARL's only record of a document held in-house, has no convenient provision for recording data on individual copies of an AD number.

DTIC'S ADD program has increased CARL's acquisition rate from 3000 documents a year to over 8000. These additional 5000 documents a year from DTIC are already tagged and require only filing in microfiche cabinets to add them to our completely cataloged, electronically retrievable collection (our total holdings now number over 130,000, an increase of 30 percent in 3 years with no additional staff or funding requirements). The ADD program at CARL has an interesting history. In the mid-70s, CARL began receiving ADD documents. At that time, however, each fiche set was cataloged into the collection by the complex procedure outlined above and shelved by its new call number. Understandably, a backlog of fiche to be cataloged developed in a very short time and soon grew to unmanageable proportions. The solution was to discontinue the ADD program. With the advent of SBI, these fiche (still awaiting cataloging!) were tagged in the DTIC data base and filed by AD number. Participation in the ADD program, which now included automatic tagging, was resumed. This time we had the right solution: don't recatalog what has already been addressed by DTIC catalogers.

To tell the whole story, SBI has not replaced the old cataloging system completely, at least not yet. CARL does not have a classified terminal to DROLS; therefore, the number of classified document citations we input is limited. If there is any chance that a citation may be "classified by compilation" (i.e., a collection of unclassified terms revealing a classified concept), we do not include that document in the SBI process. Additionally, since the beginning of Phase IV of SBI, in which citations to documents held by but not under the proponenty of the library are input to SBI, two agencies have reserved the responsibility and privilege of inputting their citations for themselves. Therefore, if CARL receives documents from either of these sources (and there may be more such agencies in the future), we must catalog them under the old system. And, we still have over 90,000 documents already cataloged into the card catalog; although we are continuing to identify AD numbers for many of these and to transfer them to the DTIC collection at CARL, the conversion of this retrospective collection will take years and may never be completed. No matter -- the card catalog will continue to access this collection adequately, and the collection itself will grow older and smaller (through weeding and transfer) until it is an "historical" adjunct to the on-line, DTIC-supported collection.

CARL is currently in the process of procuring a minicomputer-based circulation/inventory control/public access catalog system for the book and periodical collections. The decision not to include the documents collection in this new automated system was made for a number of reasons, most notably the potential security problems with including even unclassified information about classified documents (approximately 40 percent of our documents are classified), and the already well functioning SBI/DROLS automated access to documents. We will include in the minicomputer system only a brief record for documents held, a record consisting of AD number, bar-code label ID to identify a particular copy of an AD number, and regrading information (a function that the DROLS/SBI system cannot yet adequately address). With this short documents record included, we can use the minicomputer system to control documents circulation in the same manner as circulation of other library items.

Participation in SBI has presented some new problems. As stated above, system and equipment downtime is particularly damaging since we now rely so heavily on DROLS for in-house documents access. Until DTIC develops some suitable backup or until the LAM provides computer-power at the local level, we must continue to rely on the bibliography indexes when the system is down. Adequate, but just barely. Since CARL is a member of TRALINET, we are concerned with sharing our resources with other network members. The transparency of the holdings codes in field 48 precludes an on-line union list (like OCLC's) of documents held by TRALINET. We are examining alternatives at this time. And SBI procedures themselves have surfaced problems we could ignore heretofore such as those pertaining to distribution statements, e.g., improper distribution statements, missing distribution statements, obsolete distribution statements. These problems must now be solved by our catalogers before the document can be input to DTIC.

A significant function that cannot yet be addressed by DTIC is the pinpointing of classified documents requiring regrading action. Regrade and/or declassification dates are included in the DTIC record, but those fields are not searchable. We tried searching all classified document records tagged by CARL and then sorting them by regrade and/or declassification date, assuming that those needing attention in 1981, for example, would be followed by those with dates in 1982, 1983, etc. However, the dates in the pertinent fields are entered as month-day-year; so, when we sorted, all the firsts of April were followed by all the firsts of August, etc. We still keep a paper regrade suspense file and will until we can devise a reliable way to get this information from the DTIC system.

We are still better off as far as regrading is concerned. Under the old system, all the paper records for a regraded document (including as many as 20 catalog cards) had to be changed (remember, document classification was part of the call number) and the document reshelfed according to its new classification. Today, with AD number filing, only the electronic record must be changed -- and DTIC takes care of that. We are saving an estimated 45 minutes for every document regraded.

A number of smaller problems have arisen because, for the first time, the library is not controlling its "shelflist." We have requested, and DTIC has provided, means to inform us when changes are made in records to which we have appended holdings codes (i.e., our "shelflist" records). DTIC has been most responsive to these requests. For example, AD number changes and cancellations are announced on the electronic mailbox, a new identifier "S/L CHANGE TAB nn-nn," is now included in the record when the classification or limitation of that document has been changed (the reason for the change is included in the new field 49). These efforts from DTIC show, we feel, DTIC's willingness to assist a library to implement and use SBI as outlined in the original objectives.

Figure 8 is a graph showing the increase in the number of DTIC searches performed since 1978, about 2 years before we began SBI. Some of the tremendous increase in searches is due to the duplicate checking step required by SBI, but much of it is due to the increased dependency on DROLS. Altogether it shows how activity at the Documents Center is centered more and more around the DTIC system. A second Uniscope terminal was added at CARL shortly after we began SBI; competition for the single terminal was too great. Recently we have begun using a third terminal (a dial-up) to provide additional access during periods of heavy reference work. Our staff alignment also reflects the increased demand of patrons on the services of the Documents Center: one cataloger, who often assisted with reference, plus a reference technician fielded most of the questions in 1978. By the end of 1982, two catalogers who spend more than 50 percent of their time doing reference and one full-time reference technician were required to handle the reference load.

Whether reference business picked up as a result of the increased accessibility to useful information or whether the automated system is merely helping our staff handle a concurrently increasing reference requirement cannot be determined from the statistics. The only conclusion which can be made is that DTIC and SBI have definitely changed life at CARL.

For further information, contact Ms. Barbara Everidge (913) 684-4035 or AV 552-4035.

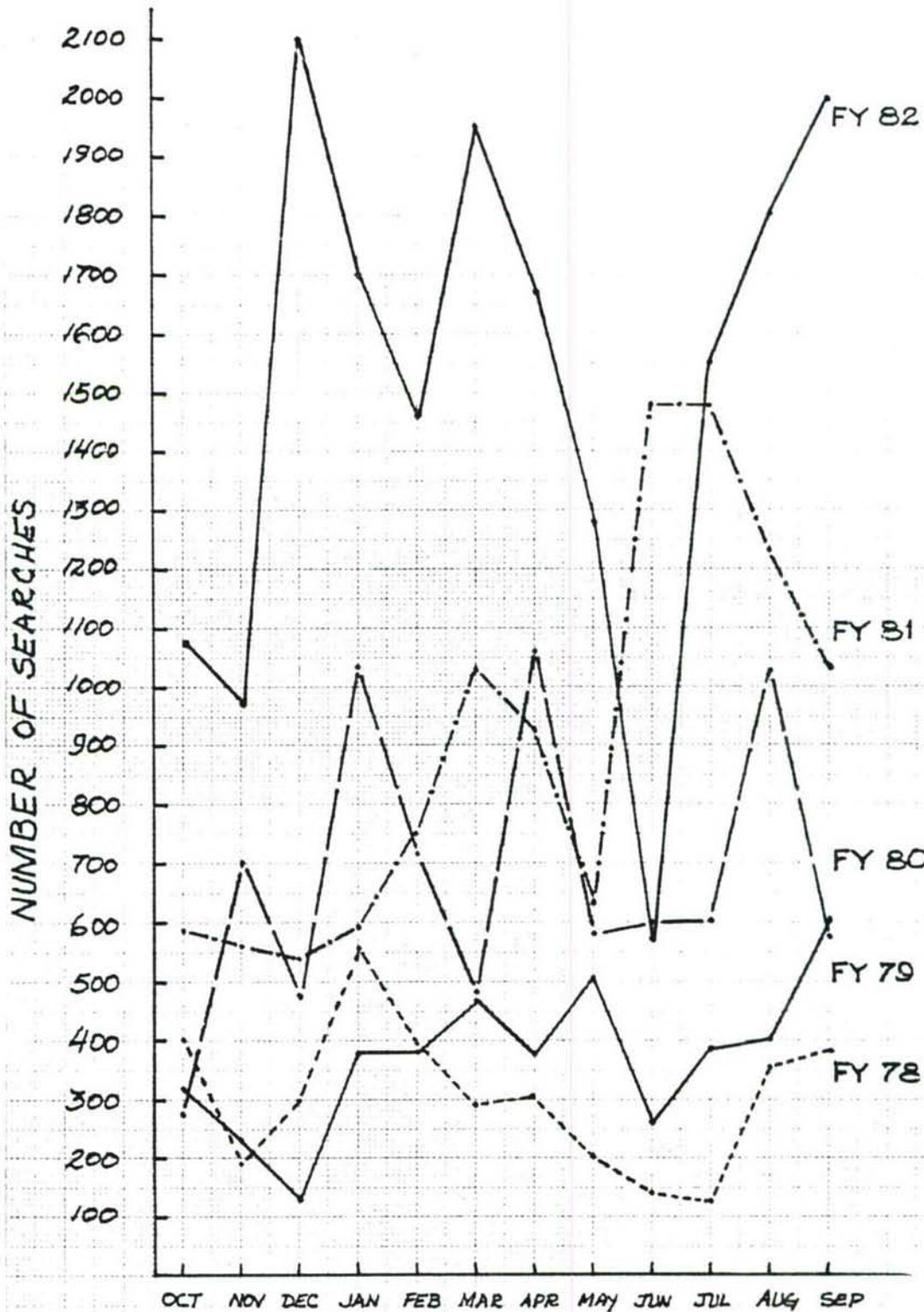


Figure 8 - Increase in number of DTIC searches per month since 1978 (all files, all terminals added together). SBI participation began in June 1980.

## TAPE CASSETTE INPUT

Ms. Frances M. "Tillie" Thompson  
Technical Research Library  
Naval Research Laboratory

The Naval Research Laboratory (NRL) SBIN site has been developing and using tape cassette input for several years since its time as one of the six original SBIN experimental sites. They have established standard tape input formats and standard document worksheets corresponding to the input. The formats and worksheets are structured for both unclassified and classified document input. Their development of this input capability has greatly increased NRL input effectiveness. The advantages NRL has found in using their standard formats and worksheets with the tape cassette include:

- a. It cuts down on actual taping time and reduces errors (especially with beginners).
- b. If an error is made when taping, it can be detected and corrected on screen before writing onto the tape being used for input.
- c. It's an easier and quicker method for beginners to become familiar with all of the fields and their entries.
- d. If a record is lost during the process of inputting because of a terminal malfunction, it is not a total loss because it has been taped.
- e. Documents can be taped during downtime as well as when the terminal has been activated.

### HOW NRL USES THE TAPE CASSETTE AND STANDARD FORMAT

#### 1. PREPARATION OF STANDARD FORMAT

Label two new tapes: one "STANDARD FORMAT," the other "NEW ITEMS."

Press POWER switch on the CRT, cassette, and the printer.

Insert Standard Format Tape in Transport 2 with Side A/1 facing out.

Depress CASS 2 control switch. Press WRITE switch.

Bring cursor to the bottom of screen, depress PRINT key on terminal. This will record a dummy block which will serve as a marker. Write down address that is displayed on the face of the cassette (see address in window). This is the address for the first Standard Format.

Type fields on screen which are constant and do not exceed one line. See standard format examples below. Type delimiters, field numbers and any data which will remain the same.

When format desired is complete, bring cursor to bottom of the screen; make certain the WRITE switch is depressed, press PRINT key on terminal. Standard Format has now been recorded onto CASS 2. You can prepare as many formats as necessary or desired in this way. It is helpful to have at least two, one for unclassified reports and one for classified reports.

Rewind cassette and remove from transport.

## 2. TAPING OF NEW ITEMS

Prepare CASS 1: Press POWER switch on the CRT, cassette and printer. Press CASS 1 control switch.

Insert blank tape into transport 1, record dummy block as before. Write down address that is displayed on the face of the cassette (see address in window). This will be the first location for new items.

## 3. LOCATING AND DISPLAYING STANDARD FORMAT

Insert Standard Format Tape into transport 2.

Press CASS 2 and SEARCH switches. Write @##### on screen (6 digit number recorded as address of Standard Format). Press PRINT key on terminal. Press READ switch on cassette and PRINT switch on terminal. Standard Format has now been displayed. Type data on screen in appropriate spaces.

## 4. TRANSFERRING DATA FROM CASS 2 TO CASS 1

Press CASS 1 control and WRITE switches. Make certain cursor is at the bottom of the screen or at the end of data. Press PRINT key on terminal. Data from CASS 2 is now on CASS 1. Erase screen.

## 5. TAPE DATA WHICH VARIES ON SECOND SCREEN

Type second screen beginning with field 6: @6@ - Title and continue with remaining fields that are not on the Standard Format; ex: @10@ - Authors, @23@ - Descriptors, @25@ - Identifiers, @27@ - Abstract, and @21@ - Supplemental note if needed. Continue on next screen if required.

## 6. TAPING OF SUBSEQUENT ITEMS

Display Standard Format again by pressing CASS 2 control switch and < 1 block (Back-up-one block) switch. If the Standard Format has been prerecorded more than one time, it will not be necessary to Back-up-one block to get a display. Press CASS 2 control switch and READ switch. The Standard Format will again be displayed. It will be displayed as many times as it was prerecorded by pressing the READ switch when taping subsequent "NEW ITEMS."

Type data on screen in appropriate spaces. Transfer information onto CASS 1 as before.

When all taping is complete, clear screen, press REWIND switch. Press CASS 2 control switch and REWIND switch. Remove and store tapes.

NOTE: When searching for an address of an item previously taped, the tape does not always stop at the exact location of the recorded address. It may stop 1 or 2 positions off. If this happens, press < 1 block (Back-up-one block) switch on cassette and PRINT key on terminal. Record will then be displayed on screen.

### HOW TO LOCATE STANDARD FORMATS ON SIDES 1 AND 2 OF TAPE

SIDE #1 - STANDARD FORMAT FOR CLASSIFIED REPORTS

SIDE #2 - STANDARD FORMAT FOR UNCLASSIFIED REPORTS

1. If locating the Standard Format at the beginning of Side #1, press READ (wait for tape to stop at proper address) then press PRINT - Classified Standard Format will be displayed for the 1st screen of information to be taped. (This procedure does not require the writing of an address on the screen.)

2. If at the beginning of Side #1 at the top of the screen and you want to switch to Side #2 for Unclassified Standard Format, key in ▶ @2 - press SEARCH, then PRINT (address changes to Side #2 in the window). Press READ then PRINT again and the Unclassified Standard Format will be displayed on screen.

3. If at the bottom of the screen on Side #2 and you want to switch to Side #1, press SOE ▶ @1 - Press SEARCH, press PRINT (address changes to side #1 in window). BACK UP 1 BLOCK and press PRINT again. Screen will be displayed. In order to switch Side #1 follow same instructions used for side #2 except key in SOE ▶ @2 at bottom of screen.

4. If a PARITY CHECK shows up, press READ - Press RED WAIT LIGHT button and then press PRINT. This gets rid of parity check and Standard Format will then display on screen.

NOTE: If you get a parity check, the WAIT light locks the tape and keyboard in position.

5. After taping last screen of information and writing it on to Tape #1, press Cassette Tape #2 - press READ, then PRINT and Standard Format will be displayed again.

NRL'S SUGGESTED GUIDELINES TO FOLLOW WHEN SETTING UP WORKSHEETS AND STANDARD FORMATS

1. The Worksheet should be set up according to the way the Standard Format is set up because it makes it much easier to follow. See samples following.

2. When setting up the Classified Worksheet, indicate the classification of the sheet at the top and bottom because it may contain classified identifiers in field 25, thus making the Worksheet classified.

3. The Standard Format can be set up in whatever order one prefers. The order in which the fields are typed does not matter. Also, the single line entry or the run-on-line entry may be used.

4. Use as many single line entries as possible because it's much easier to proofread the screen before writing it onto tape.

5. Side A or 1 of the tape can be used for the Classified Standard Format and Side B or 2 of the same tape can be used for the Unclassified Standard Format.

6. It is suggested that all fields be set up on the Standard Format with the exception of field 6 (Title), field 21 (Supplemental note), field 23 (Descriptors), field 25 (Identifiers) and field 27 (Abstract). These fields are entered on subsequent screens because of their length.

7. Delete any fields on the Standard Format which have no entries during the process of taping the document. These lines can be used if needed when typing the distribution statement, field 21.

8. It is suggested that the distribution statement, field 22, be the last entry on the Standard Format because of its length. If more lines are needed to complete the entry once you've reached the bottom of the screen, you can always shift the entire screen of information up to the position of the cursor by deleting unused spaces. This allows for the extra lines at the bottom of the screen.

9. In order to locate the record taped, you must know its address; therefore, it is necessary to record all addresses. It is also important that the accession number and holdings symbol assigned each record is recorded along with the data taped and date input for future reference.

Sample formats and worksheets follow.

NRL'S VERSION OF UNCLASSIFIED STANDARD FORMAT

@1@ade001                      @43@NRL                      @20@u                      @33@ .21  
@3@u  
@24@u  
@2@  
@9@  
@11@  
@12@  
@14@  
@15@  
@16@  
@17@  
@18@  
@19@  
@34@  
@35@  
@2@  
@2@  
@2@

NRL'S VERSION OF CLASSIFIED STANDARD FORMAT

@1@ade001                      @48@NRL                      @20@                      @33@ .21                      @46@  
@3@u  
@24@u  
@2@  
@9@  
@11@  
@12@  
@14@  
@15@  
@16@  
@17@  
@18@  
@1@  
@32@  
@34@  
@37@  
@38@  
@35@  
@25@  
@28@

@22@ Announcement only; not available from DTIC. For availability information contact

UNCLASSIFIED WORKSHEET

Date prepared \_\_\_\_\_

NRL DOCUMENT No. \_\_\_\_\_ DOCUMENT NAME \_\_\_\_\_ LOCKYOPD \_\_\_\_\_

Accession No. @1@ade001	Holdings Symbol @48@NRL	Document Class. @20@	Distr./Code @33@ .21
----------------------------	----------------------------	-------------------------	-------------------------

Title class. @8@	Posting terms class. @24@ class. of fld 23	Fld/Grp Sub-Grp @2@	Descriptive Note @9@
---------------------	--	------------------------	-------------------------

Date @11@	pages @12@	Report No. (s) @14@	Contract No. (s) @15@
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Project @16@	Task @17@	Monitor Agency Acronym, SBI @18@	Monitoring Agency: Series, AD-E No. @19@
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Serial Code @34@ Modified version of @9@	Source Header Code @35@	Identifiers Class. @26@ Class. of fld 25
--	----------------------------	--

Abstract Classification @28@	
---------------------------------	--

Distribution Statement @22@
--------------------------------

Title @6@ <i>SEE DOCUMENT</i>	Authors @10@
----------------------------------	-----------------

Descriptors or Posting Terms @23@
--------------------------------------

Identifiers and/or Open-ended terms & PE & WU Nos. or LPN Nos. @25@
--

SFI

Abstract @27@ <i>SEE DOCUMENT</i>
--------------------------------------

Supplemental Notes @21@
----------------------------

Date Prepared \_\_\_\_\_ WORKSHEET FOR CLASSIFIED REPORT

CLASSIFICATION OF THIS WORKSHEET IS \_\_\_\_\_

NRL DOCUMENT NO. \_\_\_\_\_ DOCUMENT NAME \_\_\_\_\_ LOCKWORD \_\_\_\_\_

Accession No. @1@ade001	Holdings Symbol @48@NRL	Document Classificat. @20@	Distr./Code @33@ .21
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@8@ Title classificat.	Posting terms class @24@ Class. of fld 23	Fld/Grp Sub-Grp @2@	Descriptive Note @9@
---------------------------	---	------------------------	-------------------------

Date @11@	Regrade Date @11@	pages @12@	Report Number(s) @14@
--------------	----------------------	---------------	--------------------------

Contract Number(s) @15@	Project @16@	Task @17@
----------------------------	-----------------	--------------

Monitor Agency Acronym, SBIN @18@	Monitoring Agencies Series, AD-E No. @19@	Regrade Code @32@
--------------------------------------	--	----------------------

Serial Code - @34@ Modified version of @9@	Classification Authority @37@
--	----------------------------------

Declassification Date/Event @38@	Source Header Code @35@	Identifiers classification @26@ class. of fld 25
-------------------------------------	----------------------------	--

Abstract Classification @28@	Downgrading Event @39@
---------------------------------	---------------------------

Distribution Statement  
@22@

Title @6@ SEE Document	Classified Title if any @7@	Authors @10@
---------------------------	--------------------------------	-----------------

Descriptors or Posting Terms  
@23@

Identifiers and/or Open-ended terms & PE & WU Nos. or LPN Nos.  
@25@

SBI

@27@ Abstract SEE Document

@21@ Supplemental note

## CATALOGING WORKSHOP

Ms. Elaine Burress, Chief  
Ms. Barbara Gladd  
Ms. Loretta Brown  
Ms. Virginia Becks  
Ms. Gail Martens  
Descriptive Cataloging Branch  
Defense Technical Information Center

### CATALOGING WORKSHOP AGENDA

The Cataloging Workshop was held as a submeeting of the SBIN Conference to bring SBIN participants up to date on new cataloging techniques and applications developed at DTIC and was of particular interest to SBIN sites for input of technical reports. The workshop agenda follows:

1. Opening Remarks - Elaine Burress
  - a. Welcome
  - b. Importance of cataloging to networking
  - c. Encourage active participation, i.e., questions, calls
  - d. Explain the RSAG Cataloging Committee
2. New Variations - Barbara Gladd
  - a. Compilations - analytics  
What they are  
Statement in field 21  
How they could do it
  - b. Combinations - Multimedia  
What they are  
Statement in field 21
3. New classification procedures and field 11a - Loretta Brown
  - a. Handout of changes
  - b. DoDD 5200.20 - Aug 1, 1982
  - c. OADR - "Originating Agency's Determination Required"
  - d. Field changes
4. Terminal Techniques - Virginia Becks
  - a. Duplicate-checking strategies
  - b. Holdings search strategies
  - c. Dummy on the screen
5. Training New Catalogers - Loretta Brown
  - a. Guidelines (read them)
  - b. "Easy" documents - give them characteristics
  - c. Printout, review, correction

6. Update on DoDD 5200.20 - Gail Martens
  - a. Where distribution statements come from
  - b. Present state of flux
  - c. Status of revision
7. Questions

#### DESCRIPTIVE CATALOGING

Ms. Barbara Gladd, SBIN Focal Point for Descriptive Cataloging gave the following presentation:

As descriptive cataloging contact point for SBIN, I advise participants on the accepted format for entering data in the descriptive cataloging fields. These formats pertain to corporate author, title, descriptive note, personal authors, date, pagination, report numbers, contract, project, task and work unit numbers, local project numbers, monitor report numbers, classification, supplementary note, distribution and availability statements and codes, and classification and regrading data and codes.

My association with SBIN participants begins with the input training class for new sites when I spend several hours with each class discussing the descriptive cataloging fields. As new sites begin to input records, I monitor their input and call them to advise when changes should be made. Sites frequently call before they input a record with questions about the way it should be entered.

When the 2-week Mini-MAD cycle is complete and File Maintenance transactions are applied, printouts are made of all SBI records which have been flagged and accepted during the cycle. These are matched with documents on hand and processed to the Descriptive Cataloging Branch.

After duplicate checking and assigning an AD/A/B/C number, I compare the printout with the document, making any necessary changes on the printout to conform with approved formats, and circle the numbers of the fields to be changed.

After completing our worksheet, DTIC Form 41, I call up the SBI record on the terminal screen. Using the @EF@ command, I call on the screen the field marked for correction, make the changes, and store the record under the AD/A/B/C number assigned.

I then send the document and printout to the Information Analysis Branch for examination of the subject field entries.

After DTIC's processing of the document is completed, I retrieve all the printouts from a given cycle and return them to the original site of entry as feedback with all the changes we have made indicated on the printout.

Occasionally, SBIN and DTIC duplicate records occur. If they are discovered before the DTIC record is in the TR file, we use the SBIN record, even though it means retyping some data. When duplicates are discovered too late to be corrected in the Current File, we add all of your entries to the record by File Maintenance procedures, except your holdings symbol. Since I can't add that by File Maintenance, I usually call to advise of the duplicate and ask whether the site will add the holdings symbol by File Maintenance. If they prefer, I can add it by a punched card routine.

Our cataloging rules are in a constant state of change due to changes in regulations, Executive Orders, etc. When our cataloging branch adopts changes in procedure, I write SBIN notices to all sites to keep you up to date.

Please feel free to call me on any question pertaining to descriptive cataloging entries ((202) 274-6804/AV 282-6804).

#### NEW CATALOGING PROCEDURES

(As applied at DTIC and of interest to the SBIN sites.)

#### Compilation Reports

Compilations of papers and articles such as proceedings and symposia are now being selected for on-line announcement of and access to the individually authored papers. The criteria for selection are: they must be unclassified and unlimited, be in English, contain technical information, and be the work of multiple authors.

When a report is selected for compilation processing at DTIC, we duplicate-check the document and all of its component article titles. We assign an AD-A number to the primary document and AD-P numbers to the component parts. As we catalog each article as an individual report, we mark the document for the benefit of the camera operator who will microfiche each part individually, as well as the document as a whole. A compilation notice listing all the titles and AD-P numbers of the components is typed and then microfiched as the first page of each of the component articles to tie them all together to the main document. All the required in-house processing stamps are added to this notice so they will appear with each document. DTIC's standard cataloging entry for field 21 for each of the articles is: "This article is from (Title of the compilation), AD-Axxx xxx." Each component is assigned posting terms and an abstract.

If a site catalogs a compilation report which is to be sent to DTIC, staple a card to the front of the document identifying it as "SBIN Compilation Report" to alert DTIC personnel for the necessary compilation processing. Assign an AD-E/F number for the whole document and sequential AD-E/F numbers for the component parts. Write the number assigned on the first page of each article. Input a record for the whole document and one

for each component part. Don't flag the records for DTIC take-off until all of the records are complete; flag them all at once so DTIC will get them all in the same cycle.

Multimedia Input

We are now accepting documents which include microfiche as part of the content. If a site inputs a record for such a document, include in field 21 the statement: "Includes (number) microfiche inserts."

## RSAG COMMITTEE ON CATALOGING RULES

Ms. Elaine Burress, Chairperson  
Descriptive Cataloging Branch  
Defense Technical Information Center

RSAG established the Committee on Cataloging Rules (CCR) in August 1981 with the charter to "review technical report cataloging rules used by government and non-government agencies, and make recommendations leading to standardization of cataloging rules and procedures within the Defense community." The committee's mission involves identifying systems of cataloging rules used by major technical libraries and information centers, analyzing those various systems, and submitting recommendations for standard rules to RSAG. Membership currently consists of representatives from DTIC, the Army Corps of Engineers, TRADOC, IDA, and the National Technical Information Service (NTIS). NASA and DOE also send representatives to observe the committee meetings.

Since its beginning, the committee has examined a number of cataloging application areas, as follows:

- The committee has looked into report number formats. As a result DTIC has adopted a program originally started at NTIS to encourage organizations to use the ANSI Standard Report Number (STRN) format.
- The committee came up with a strong justification to include additional corporate author entries in the DTIC TR data base citations. A recommendation for this enhancement was sent to RSAG.
- In 1981-1982 the committee conducted a survey of technical report cataloging done by major defense installations. Survey results revealed that there is no overall consistency or standardization within DoD in this area. The committee has embarked on a review of all cataloging fields as a basis for revising cataloging guidelines with the awareness that computer flexibility is important.

The committee made a study comparing technical reports cataloging using the Anglo-American Cataloging Rules (2nd edition), with the DTIC implementation of the Committee on Scientific and Technical Information (COSATI) cataloging rules. A sample of seven documents which DTIC had cataloged in May 1982 was cataloged in the MARC format, using AACR-II rules, for entry into OCLC. Six unclassified, unlimited documents and one unclassified, limited document were used. The Corps of Engineers Library and DTIC did most of the AACR-II cataloging with one MARC record created and

input to OCLC by the Army Waterways Experiment Station Library, Vicksburg, Mississippi. A record for the limited document was never entered into the OCLC system. The committee basically concluded that the MARC format for technical reports and the AACR-II rules for cataloging monographs can be used to catalog technical reports. The resulting records are not that much different looking to the user of the cataloging data and the reports. A serious limitation to MARC is that the Library of Congress (LC) Authority list must be used, and organization names look different from what COSATI users are used to seeing. Additionally, the MARC format is flexible enough to incorporate classified information, according to the LC MARC Office point of contact, Ms. Sally McCallum, but presently there is no system in which AACR-II is setup with classified information. The study has been published as: Comparison of DTIC COSATI Cataloging and AACR-II Cataloging in the MARC Communications Format, Aug 82, AD-All8 215.

Committee activity in 1982-1983 will concentrate on establishing specific cataloging conventions based on COSATI rules. If there are problem areas which SBIN participants wish the CCR to address, they may use the Request for SBIN Program Development/Enhancement form and send their comments to RSAG. Organizations and persons proposing changes in cataloging policy are also encouraged to contact the CCR Chairperson: Ms. Elaine Burress, Chief, Descriptive Cataloging Branch, Defense Technical Information Center, Cameron Station, Alexandria, Virginia 22314 (202 274-6804/AV 284-6804).

References: DTIC/SBIN Notices No. 25 and 26.

## FIELD 2 SUBJECT FIELDS AND GROUPS ASSIGNMENT

Ms. Yvonne Kinkaid  
Information Analysis Branch  
Defense Technical Information Center

Fields and Groups are chosen from the COSATI Subject Category List (DoD-Modified), which consists of 22 Fields and 188 Groups. Each technical report cataloged in DROLS is assigned at least one Field and Group code. Proper assignment of Fields and Groups is critical because every authorized user of unclassified DTIC services is required to have an approved subject profile in terms of these Fields and Groups. The release of a classified report is based upon the comparison of the Fields and Groups authorized for a requester with the Field and Group assigned to a classified document. Therefore, Fields and Groups determine the "need-to-know" release authorization for classified reports. Because DTIC is ultimately responsible for security in this area, the need may arise to delete a SBIN site-assigned Field and Group category if it is felt to be inappropriate. DTIC will contact sites and discuss any changes before making them.

A recurring question has been whether the Field 2, Fields and Groups, entries validate on-line display of technical report citations. They do not. Citation information display is dependent on the combination of the terminal clearance (secured, government unclassified, nongovernment unclassified) with further limitation refinements in the system such as security codes, organization type codes, contract access codes, and the abstract release code. On-line display basically parallels DTIC's TAB, expanded according to on-line access by the use of limiting codes. Fields and Groups codes are used only in validating release of classified documents.

DTIC suggests that SBIN sites strive for specificity in assigning Fields and Groups. For example, if a report is concerned with the stabilization of projectiles, the Field and Group codes that most closely categorize this combination of subjects should be assigned. There is no limit to Field and Group entry; as many as needed to pinpoint the technical report's topics may be assigned. The practice of Fields and Groups specificity should reduce the necessity for DTIC to change a SBIN site's assignment of these codes. But because of DTIC's document dissemination responsibilities, DTIC obviously must retain the option of review and change when the report is to be put under DTIC computer control.

Reference: DTIC/SBIN Notice No. 10.

## SBIN ENTRY PHASE INDICATORS

Mr. John Dickert  
Information Systems Division  
Defense Technical Information Center

When SBIN was established in 1977, four phases of input were identified. Phase 1 input was limited to the reports of a site's own organization as a training method to develop input skills. Phase 2 was inputting older reports of a site's organization; this phase developed on-line duplicate checking skills. Phase 3 involves the input of documents of a site's organization which the organization is willing to announce to the DTIC community via DROLS but for which the organization wants to retain the document dissemination function. Phase 4 is input of all documents in a site's collection which are suitable for announcement on DROLS -- regardless of original dissemination source.

As a matter of policy, DTIC has had the sites enter either "SBI3" or "SBI4" in field 25 for immediate recognition of these records for appropriate handling: SBI3 for unavailability recognition and SBI4 for retrieval, processing, and acquisition processes.

In the process of converting document records to indicate DTIC computer control for dissemination, DTIC has dropped off the SBI3 and SBI4 indicators, having no further in-house use for them. The sites, however, have expressed a need to retain them for statistical purposes. Consequently, DTIC will look into the needs and effects of retaining the phase indicators in the records of SBIN-originated citations.

LOCAL AUTOMATION MODEL (LAM)

Mr. John Carney  
Information Research and Technology Division  
Defense Technical Information Center

A long-range goal of SBIN is to provide participating SBIN sites with a working model of a standardized local file capability which will permit individual site control of selected records in a format compatible with DROLS. To achieve this goal, DTIC is sponsoring development of a LAM. Benefits anticipated are reduced costs for local manual cataloging procedures, less redundant data entry to DTIC and local systems, and reduced cost through the development of a compatible system for all SBIN sites.

System requirements which have been identified by SBIN sites include the handling of classified file information which would not be part of RTIS or would not be accessible by other than authorized users, a DROLS-compatible system, local application processing, software transportable to a variety of computer configurations, and a "real-time" or interactive (not a "batch") system. Other requirements include concurrent operation of both RTIS and the local system, collection of system usage statistics, and user design of customized output formats for bibliographic information management including inventory control, circulation, and distribution of technical reports. Plans are to develop the model in six phases over a period of 18 months.

For DTIC to plan adequately for the future of this project, we would like to determine how many DTIC users need this local file capability and which ones would implement the system once developed. If the organization you represent would consider replicating the DTIC LAM, give DTIC your name, phone number, and the name of the agency or agencies that would like to participate.

For further information, contact John Carney or Gladys Cotter,  
(202) 274-7661, AUTOVON 284-7661.

MACHINE-AIDED INDEXING (MAI)

Mr. C. Richard Jacobs  
Special Products and Terminology Branch  
Defense Technical Information Center

Ms. Yvonne Kinkaid  
Information Analysis Branch  
Defense Technical Information Center

Mr. David Williford  
Systems Design and Development Division  
Defense Technical Information Center

Machine-Aided Indexing (MAI) will be available to SBIN sites in November. This capability will allow sites to flag an item with "i" for computer-generated index terms in Field 23. The MAI process reads Field 6, Title, and Field 27, Abstract, for computer entry in Field 23, Descriptors.

After a completed item is placed in Permanent Storage, it can be flagged with the "i" using the Flag Item (@fi@) command or the Flag Range (@fr@) command. For example:

```
Type in: @fi@adal23456-tos/i
Response: ADA123456 HAS BEEN FLAGGED WITH (I)
or
Type in: @fr@adal23456-tos/adal23459-tos/i
Response: ADA123456 THRU ADA123459 HAVE BEEN FLAGGED WITH (I)
ITEMS FLAGGED: 4
```

The next day the item(s) can be recalled using the Get Item (@gi@) command, and Field 23 can be displayed. The MAI terms will be entered in lower case. At this point, you may capitalize, add to, delete, weight, or rearrange the terms.

An MAI definitions list, sample printout, and flow charts follow.

## DEFINITIONS

- |                                 |  |
|---------------------------------|--|
| Machine Aided Indexing (MAI)    | - Process whereby natural language text is automatically converted to controlled DTIC Posting Terms.                       |
| Machine Phrase Selection (MAPS) | - That portion of the MAI process which automatically extracts natural language phrases from text.                         |
| Recognition Dictionary          | - Computer file containing approximately 120,000 unique words together with their machine instructions.                    |
| Maps Grammar                    | - A context-sensitive phrase structure grammar which automatically recognizes syntactically appropriate words and phrases. |
| Lexical Dictionary              | - That portion of the MAI process which acts as a switch between natural language text and controlled DTIC Posting Terms.  |
| Logic Set                       | - Computer instructions for processing one-, two-, three-, and four-word phrases into the table.                           |
| Table                           | - A transformation device that interacts with the logic set to produce Posting Terms.                                      |
| Direct File                     | - Main computer file containing all pertinent document information.  |
| Inverted File                   | - Computer file by Index Term together with the document accession numbers to which they have been assigned.               |

OCT 19, 1982

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UNCLASSIFIED

NO WW P00052 (U) FIELD/GROUP 999999

## UNCLASSIFIED TITLE

SHAPE DETERMINATION OF STRUCTURES BASED ON THE INVERSE VARIATIONAL PRINCIPLE/THE FINITE ELEMENT APPROACH,  
ABSTRACT

(U) IN THIS PAPER, THE NUMERICAL SHAPE DETERMINATION TECHNIQUE OF STRUCTURES IS PROPOSED BY COMBINING WITH THE FINITE ELEMENT METHOD AS AN APPLICATION OF THE PRINCIPLE. FIRST OF ALL, THE OPTIMAL SHAPES OF BODIES WHICH ARE SUBJECTED TO STATISTICAL LOADS ARE DETERMINED ON THE BASIS OF THE POTENTIAL ENERGY PRINCIPLE. THE TRIANGULAR FINITE ELEMENT MODEL IS EMPLOYED, AND COORDINATES OF THE NODAL POINTS ON THE PERIPHERY OF THE BODY ARE ADAPTED AS SHAPE VARIABLES TO OBTAIN THE OPTIMAL SHAPES INDEPENDENT OF PRECONCEPTION. TO SOLVE THE DERIVED SYSTEM OF NONLINEAR EQUATIONS, A NEW SUCCESSIVE REFORMING PROCEDURE REFERRED AS ENERGY RATIO METHOD IS PROPOSED. IN THE SEVERAL NUMERICAL EXAMPLES SHOW THAT THE SHAPE OF THE BODY IS STABLY REFERRED INTO THE OPTIMAL ONE BY THE METHOD. IN THE SECOND PLACE, THE PRINCIPLE IS EXTENDED TO THE EIGENVALUE PROBLEMS TO SEARCH THE SHAPE OF THE MAXIMUM BUCKLING LOAD AND THAT OF THE MAXIMUM FUNDAMENTAL FREQUENCY. SEVERAL EXAMPLES USING ONE-DIMENSIONAL FINITE ELEMENT MODEL ARE PRESENTED AND THE VALIDITY OF THE ENERGY RATIO METHOD IS ALSO SHOWN.

## POSTING TERMS ASSIGNED

EIGENVALUE PROBLEMS TO SEARCH  
USE EIGENVALUES  
SEARCHING

ENERGY RATIO METHOD  
USE ENERGY  
RATIOS

FINITE ELEMENT APPROACH  
USE APPROACH  
FINITE ELEMENT ANALYSIS

FINITE ELEMENT METHOD  
USE FINITE ELEMENT ANALYSIS

INVERSE VARIATIONAL PRINCIPLE  
USE INVERSION  
VARIATIONAL PRINCIPLES

NONLINEAR EQUATIONS  
USE EQUATIONS  
NONLINEAR ANALYSIS

NUMERICAL SHAPE DETERMINATION TECHNIQUE  
USE DETERMINATION  
NUMERICAL ANALYSIS  
SHAPE

ONE-DIMENSIONAL FINITE ELEMENT MODEL  
USE FINITE ELEMENT ANALYSIS  
MATHEMATICAL MODELS  
ONE DIMENSIONAL

SHAPE DETERMINATION  
USE DETERMINATION  
SHAPE

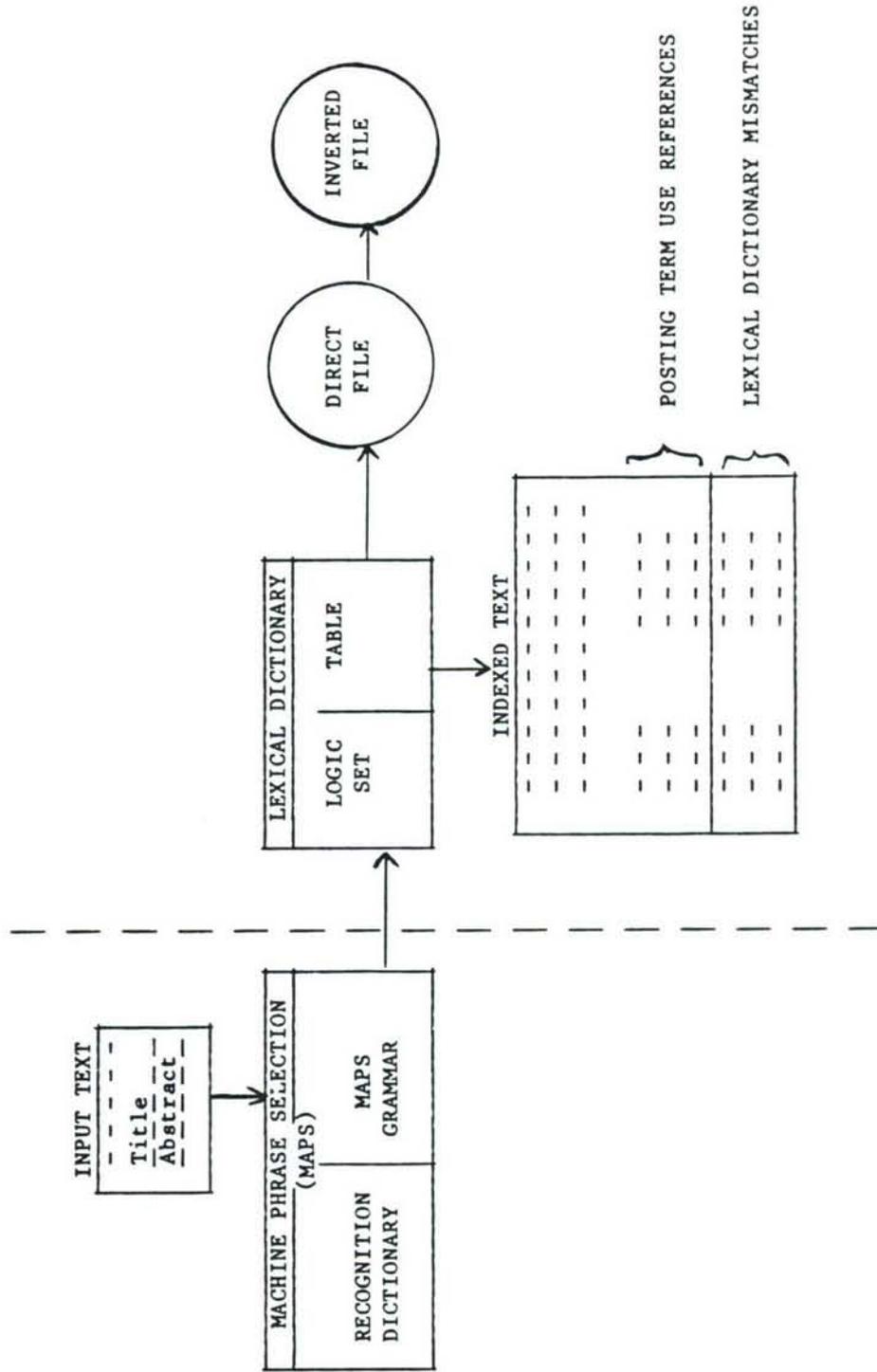
SHAPE OF THE BODY  
USE BODIES  
SHAPE

SHAPE VARIABLES  
USE SHAPE  
VARIABLES

2296-approach, bodies, determination, finite element method, inverse variational principle, numerical analysis, shape, variables, variational principles.

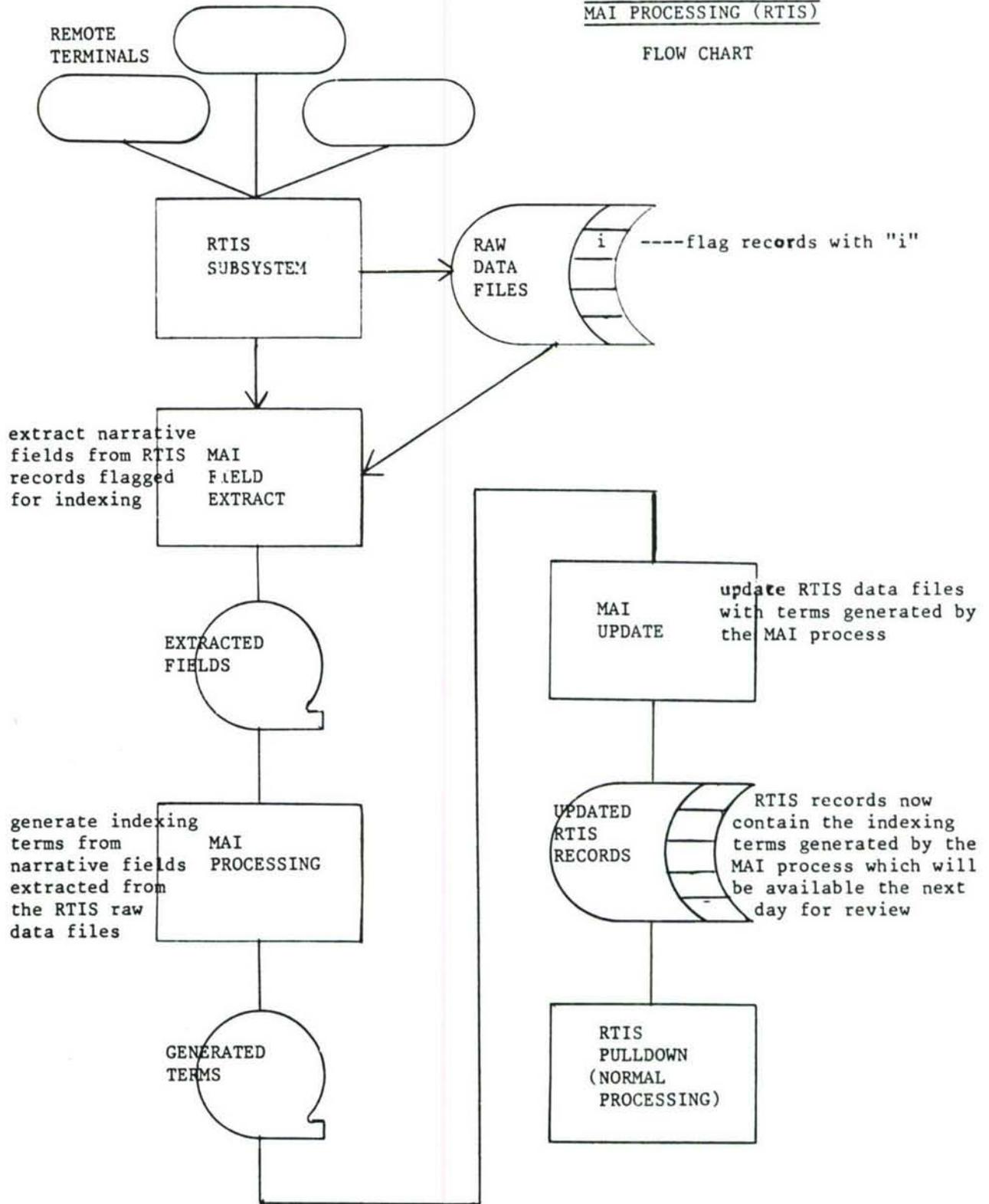
2296-STRUCTURAL ANALYSIS, BUCKLING, DETERMINATION OF THE MAXIMUM BUCKLING LOAD AND THAT OF THE MAXIMUM FUNDAMENTAL FREQUENCY. SEVERAL EXAMPLES USING ONE-DIMENSIONAL FINITE ELEMENT MODEL ARE PRESENTED AND THE VALIDITY OF THE ENERGY RATIO METHOD IS ALSO SHOWN.

MAI FLOWCHART



MAI PROCESSING (RTIS)

FLOW CHART



DTIC RETRIEVAL AND INDEXING TERMINOLOGY (DRIT) ON LINE

Mr. Nathan Rosenbaum  
Directorate of Data Base Services  
Defense Technical Information Center

The on-line display of a Thesaurus File, or DRIT, is part of a set of planned enhancements to the current DROLS programs to incorporate new features and to interface DRGLS with developments and enhancements in applications systems. The DRIT on-line enhancement includes placing the Thesaurus File under File Management System (FMS) control, along with other files. The Thesaurus File will include posting terms and their associated used-for references, broader and narrower term references, use references, and, where applicable, related term references and scope notes. In addition, set-up dates for new posting terms will be provided. Because of current efforts to convert DTIC ADP programs to a higher-level language, programing for the on-line DRIT is scheduled for after October 1983. Further information on DRIT and DRIT on line may be obtained by calling the DTIC Special Products and Terminology Branch, (202) 274-7206/AV 284-7206.

AD-POOL 901

WHAT "ILS" COSATI?

Mr. Nathan Rosenbaum  
Directorate of Data Base Services  
Defense Technical Information Center

BACKGROUND

DTIC has set up a SBIN so that DoD organizations which produce or acquire technical reports generated from research and development projects can reduce the costs of organizing their technical report collections. SBIN allows DTIC and other members of the network to catalog reports as they acquire them and therefore share that cataloging with other members of the network as they acquire reports already cataloged. This reduces duplication of effort and saves time and resources. Many of the SBIN members also belong to OCLC, which allows them to participate in the shared cataloging of more traditional library materials such as books and journals. Representatives from the organizations that belong to both OCLC and SBIN have suggested that data obtained from one network be usable in the other. To this end, DTIC's RSAG meeting of 22-23 Feb 82 tasked me to look into the possibility of developing a compatible data format. Several SBIN sites have already purchased a minicomputer-based system that processes data from OCLC, and they would like that system to be modified so that it can process data from DTIC's data base of citations of technical reports. This minicomputer-based system was developed by NLM with substantial help from the Army Library, Pentagon. The system is known as the Integrated Library System (ILS).

ILS was conceived as a system to consolidate the various files in a library so that library managers, reference and technical service personnel could better manage their resources for the benefit of their users. Recognizing that library budgets were falling and that libraries were increasingly frustrated by having to share computer resources in organizations that relegated their needs to low priority, Mr. Charles Goldstein, ILS project manager at NLM, insisted that the software run on inexpensive equipment, not be restricted to equipment from one manufacturer, and easily adapt to changing user requirements.

WHAT IS ILS?

ILS is a minicomputer-based software package that allows libraries to control circulation, cataloging, ordering, and compilation of summary reports of their collections. For a good summary of the capabilities and design of

goals of ILS, take a look at The Integrated Library System (ILS): System Overview (1981), for which I rely on the following points; ILS supports:

1. Cataloging data from OCLC.
2. On-line cataloging access for users.
3. Circulation.
4. Provision of summary reports to aid librarians in controlling their collection.

Enhancements have continued and include capabilities to extract information directly from an OCLC terminal, to link separate ILS systems together, to handle branch libraries, and to accept cataloging tape input from the Library of Congress and DTIC.

ILS has undergone continuous development since its inception in 1977 under its original director, Mr. Goldstein. His group, working in close cooperation with the Army Library, Pentagon, and others, has amassed the experience necessary for translating design specifications into a smoothly operating system. For computerized systems, continuity of development staff is essential.

#### RECOMMENDATION: ADAPT ILS TO PROCESS NONSENSITIVE COSATI RECORDS?

ILS, already installed at the Army Library, Pentagon and at the NRL library, can be adapted to process unclassified/unlimited data produced in accordance with COSATI cataloging rules and distributed by DTIC on magnetic tape according to the format described in Defense Logistics Agency Manual 4185.8, Magnetic Tape Dissemination Reference Manual. Problems associated with accountability of, and controlling access to, classified or otherwise sensitive data are being addressed by DTIC's LAM project. I doubt that ILS can be certified to process such data. However, before I continue with the reasons that nonsensitive COSATI cataloged records can be processed, I will indicate some considerations in designing an automated system capable of storing and displaying sensitive data.

#### PROBLEMS WITH SENSITIVE DATA

An automated system which can store and display sensitive data can be thought to consist of users, methods of access, and data. If each user is cleared to see any record, the situation is greatly simplified. For example, a system with 1,000 unclassified/unlimited records and one Secret record can only be used by users who are cleared for Secret information and have the required need-to-know privileges. The system must also be capable of maintaining accountability of those users who access classified information. If some users are not cleared to retrieve any record, the situation is more difficult to control. Identifying a user's need-to-know and labeling information with regard to its sensitivity do little good if access methods can be used to retrieve data independent of its labeling.

The access method consists of the command which the user types into the system and all the software and hardware required to retrieve the record. In the case of ILS, the access method includes the ILS program available from NTIS, the MIIS operating system currently required for ILS operation and available from Meditech, the computer hardware obtained to run the system, and any modifications made to these entities in installing the software and configuring the system. To show that ILS prevents unauthorized user access is not enough. A user might gain unauthorized access to records by gaining access to MIIS. Other problems, e.g., preventing unauthorized data access through message interception, will take us too far from the point raised at the outset: the feasibility of adapting ILS to process COSATI-cataloged records of nonsensitive technical reports.

#### COSATI/MARC STANDARDIZATION PREMATURE

It is premature to standardize data elements and, insofar as ILS is concerned, unnecessary. Differences in cataloging philosophy and cataloging details make it unlikely that LC, and our Cataloging Rules Committee (CRC) will reach agreement in time to be useful to organizations considering purchase, installation, and use of ILS. While some people might attribute lack of agreement between LC and DTIC on cataloging standards to people problems, we must remember that agreement on cataloging standards has financial implications for large files as well as for staff training. LC does not merely follow AACR II but interprets AACR II cataloging rules in terms of economic impact on LC's large catalog files.

Over the years, the MARC format has become increasingly complex. Whereas the 1972 edition of LC's description of the MARC format listed 64 tags, the 1982 edition of OCLC's Bibliographic Input Standards (MARC-based with some additions to adapt MARC to a network) lists 200 tags, as well as many new subfields and indicators. Some of the growth in complexity is in response to network needs. One might argue that the COSATI standards are simple because they have not been used in a shared catalog network -- but give us time! As our network gets more experience with shared cataloging, users will suggest refinements.

#### ILS SOFTWARE ALLOWS SEPARATE DEFINITION

ILS makes it unnecessary to rely on the expediency of translating COSATI fields to MARC. Mr. Robert Borochoff, NLM, tells me that ILS permits the definition of local tags. Unlike MARC or OCLC tags, which are either alphabetic or numeric, ILS-defined tags may be alphanumeric. Instead of using the MARC tag for title, 245, we might define an ILS tag, D06. Because ILS allows the data base definer to specify which tagged field will be indexed and to group several tagged fields in the same index, a patron searching for a title would get information tagged as 245 or D06. The Integrated Library System (ILS): User Manual describes this process and shows how it affects searching.

Descriptive elements such as technical report number, corporate author, corporate sponsor, personal name, etc., will be loaded into ILS under the control of a table that holds established form-of-entry and variant forms with automatic switching from the variant form to the established form. When a record is read that contains entries not in the table, an exception report will be printed for a cataloger to review and to decide whether the form should be established as primary, variant to some other form, or should be corrected. A cataloger or a data base administrator decides which, if any, fields will be under table control and may modify and update table entries.

Since ILS permits the user to search for the Boolean conjunction of terms, the user is faced with the problem of guessing the presence of one or more terms in the corporate source or other indexed field. Since the user may select word stems, he need be less concerned with spelling. ILS calls this control table an authority file.

#### FINANCIAL COSTS

By financial costs, I mean to look at the incremental costs for software development and data storage. I assume that you have already decided on ILS for circulation, books, journals, and other library functions for which it was originally designed. I will suggest cost considerations and bounds on how much things might cost.

Software development for a program to read a DTIC magnetic tape and convert it to a form acceptable to ILS loading is not well enough understood, and therefore the costs are unknown. However, the cost of software development might be amortized over the libraries that want it; thus, if it costs \$200,000 and 20 users want it, the cost to each would be \$10,000. Of course, if only two wanted it and the actual cost was \$1 million. . . .

Hardware costs relate to our estimates that the average technical report record (with abstract) contains 2000 to 3500 characters; the average MARC record, according to the Mar-Apr 82 issue of Library Technology Reports, contains 700 characters. That same report estimates the total storage requirement of an on-line circulation and cataloging system including overhead for indexes and authority files would approximate 3000 characters per record. Since I propose to make greater use of authority files to minimize form-of-entry problems between AACR II and COSATI, in addition to its use to control AACR II forms alone, an average COSATI-based ILS record including overhead might equal 6000 characters. A SBIN site projecting a data base of citations to 60,000 reports would need 360,000,000 bytes (360 megabytes) of storage just for technical reports.

The amount of storage, however, depends on some factors which reduce storage needs and on other factors which increase them. The proportion of authority records to title records will decrease as the number of title records increases because more reports will be from organizations already

represented in the authority files. Individually, SBIN members will have small collections and, therefore, a high proportion of authority to title records. However, SBIN members collect documents according to narrow mission statements which -- taken together with contractor specialization and concentration -- minimize variation. Insofar as SBIN members share information, variation in authority-controlled fields will increase. Whereas variation increases storage requirements, two factors reduce storage costs: data compression techniques reduce storage requirements, and costs for disks and central memory are falling rapidly. Mr. Chuck Goldstein of NLM tells me that you can get disk drives from Control Data Corporation (CDC) that will hold 500 megabytes for about \$28,000, instead of \$60,000 to \$70,000 of only a few years ago. Processing the more numerous and larger records would be speeded up by more computer memory. This has two potential cost impacts -- (1) additional memory, which in turn might require (2) a larger computer to access that memory.

#### CONCLUSION

ILS is a proven operational system with features which make its modification for technical report description, storage, and retrieval likely of success. However, we must remember that ILS has not been certified to process classified data -- a problem that may defy economical solution.

#### ACKNOWLEDGEMENTS

Reference material on COSATI and discussion with Mr. Paul Klinefelter, DTIC, helped me understand some of the problems of conversion. Discussions with Ms. Mary Bob Vic of Army Library, Pentagon, Mr. Chuck Goldstein of NLM and Messrs. Pete Imhof and Pat McConnel of NRL helped clarify ILS operation and use.

#### Bibliography

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## DIAL-UP INPUT

Ms. Barbara Everidge  
Systems Librarian, Combined Arms Research Library  
Fort Leavenworth, KA

Ms. Barbara Gladd  
Descriptive Cataloging Branch  
Defense Technical Information Center

Mr. Nathan Rosenbaum  
Directorate of Data Base Services  
Defense Technical Information Center

As an attempt to reduce costs, dial-up input in asynchronous mode (line-at-a-time transmission) was made available by DTIC and tested by CARL at Fort Leavenworth, Kansas. Asynchronous mode was employed to allow use of less expensive ASCII compatible terminals now in common use for dial-up access to the large number of subscription data bases. CARL tested DTIC's dial-up capability with a Hazeltine 1500 CRT terminal and printer interface. The test was done intermittently for 6 months, accessing DTIC through the TYMNET carrier system. Ms. Bobbie Everidge, CARL Systems Librarian, then presented her results and recommendations at the RSAG meeting in August 1982. Her observations follow.

Problems with the system and the telecommunications made dial-up asynchronous input frustrating compared to dedicated line, synchronous input to DROLS.

In more than 25 percent of the input, an apparent system problem required citations to be keystroked more than once before the citation input was accepted correctly. Some of the recurring problems are listed below:

- System downtime.
- The double carriage return transmit command stopped functioning for no apparent reason. The only remedy was to disconnect; this solution obviously resulted in loss of input.
- Carrier dropping terminal connection.

Other problems encountered were:

- Commands occasionally had to be entered and transmitted several times before they were accepted by the system. Additionally, the system responded with SYNTAX ERROR IN COMMAND when no error was observed.

- The system often failed to recognize the @END@ record terminator when transmitted as the last line of an input citation. This terminator often had to be keyed in repeatedly before being accepted by the system.

- In many cases the system failed to recognize the P command for requesting the second page of the input edit statistics. When the system responded with SYNTAX ERROR IN COMMAND, the second page could not be retrieved. The problem was corrected by DTIC.

- After an input record had been transmitted, the uppercase letters at the beginning of the fields often came back in lowercase when the record was brought back for review and editing. It was necessary to rekey to uppercase. This problem was examined and corrected by DTIC.

- The lack of a wrap-around capability necessitated manual carriage return before reaching the right margin to decrease the possibility of error input and data loss.

- After making a carriage return, it was often necessary to wait for the system to generate the printer-line feed.

An informal test was also made at DTIC, using a TI Silent 700 teleprinter terminal. A sample of seven records was input in the Descriptive Cataloging Branch (DTIC-TID) to test asynchronous input applications for the branch's heavy volume of on-line input. The experience and results corresponded to CARL's test experience but also added insights concerning high production input.

Difficulties encountered were:

- The system did not accept commands the first time. It was ascertained in-house that the system was not recognizing the first character and consequently was not accepting the command as being valid (i.e., SYNTAX ERROR IN COMMAND). The inconsistency of command acceptance required numerous repeats of the command. DTIC has since corrected this problem.

- Time required to correct and edit records was extended by the nature of teleprinter terminal/asynchronous input; i.e., it was not possible to edit a record display directly but only by phrase replacement or by replacing an entire field. This editing process expanded the amount of time beyond what is commonly needed for CRT terminal synchronous input for the same edits.

- The lack of wrap-around necessitated an awareness of the approaching right margin. Otherwise, data at the end of a line would be lost if operator did not manually return to the next line.

- Difficulties were experienced with the Edit Statistics display. At times the data columns were offset and out of alignment, causing loss of column display on the left side of the page. Also, when the leading edit/error summary display already indicated no machine-detectable errors,

the operator was still required to wait for the transmission of the entire edit statistics page for all field entries. This was a waste of time when the summary itself was sufficient. DTIC's suggestion is to use the CANCEL key to halt transmission.

In spite of these difficulties with dial-up asynchronous input, cost factors provide a reason to make the system workable. Many sites already had compatible terminals and others could easily justify these low-cost terminals.

The experience gained in both tests suggests a number of enhancements to make the input capability user-friendly:

- Automatic wrap-around on input (keystroking).
- Ability to terminate activity from input mode. The system currently requires entry into retrieval mode before terminating.
- Inclusion of a P-for-next-page prompt at the end of each screen of a record display.
- Display of only the lead summary of Edit Statistics when there are zero field entry errors.
- Cassette interface to prevent loss of work.
- Capability of direct edit of fields and record for asynchronous CRT terminal input.

TRADOC-CARL concluded from their own test that dial-up asynchronous input can be accomplished but with some difficulty under the current system. They report that the majority of recurring frustrations apparently stemmed from telecommunications problems rather than from the DTIC input system. These problems may be difficult to solve and may be outside DTIC's range of authority. TRADOC would like to see, however, some enhancement work for this mode of input before they adopt dial-up asynchronous input.

Another possibility was suggested at the RSAG meeting: dial-up synchronous input (screen-by-screen transmission). This mode requires the use of a CRT terminal and consequently would allow various features similar to synchronous input from a dedicated terminal. DTIC currently has two ports set aside for dial-up synchronous retrieval, but not input.

Synchronous access to the DROLS system is possible only over direct-dial lines since the DROLS dial-up carrier, TYMNET, transmits synchronous from modems that are incompatible with DTIC's current hardware. A UNIVAC Uniscope 100 or 200 terminal (or an emulator terminal) is still required to access DROLS. But, as an access enhancement, DTIC has ordered an IBM 3270 Protocol to accommodate terminals that conform to this protocol standard.

There are several advantages to dial-up synchronous access. This mode sends a buffer of data at a time as compared with the asynchronous line-at-a-time transmission. Another advantage is that CRT synchronous input provides the same edit capability as dedicated terminals, i.e., entire record display editing and individual field display editing, in place of the delete-and-add field edit method or phrase replacement editing which are the only procedures currently possible with asynchronous input.

The cost effectiveness of synchronous input mode, however, is a serious consideration. There is a mounting cost of commercial telephone line access for a long-term activity such as input. Unless a site has uses for direct dial-up other than input, this mode is recommended only for short-burst access or local area activities.

Another aspect to keep in mind is that although a transmission rate such as 2400 baud is fast, it is a mistake to infer that data is sent and received twice as fast as at the 1200-baud rate. From a user's standpoint the rate depends on how often the computer transmits information. A screen of data might be sent quickly, but long pauses can occur between screen transmissions. This, in addition to other factors, limits the final useful data transmission rate to something less than the baud rate.

DTIC's Administrator, attending the RSAG meeting, indicated that to be ideally effective an asynchronous input system should be designed to the purpose rather than fit in the mold. Unfortunately, because of ADP systems modifications and applications development which are already in process or are scheduled, it is not in the immediate plans. In the meantime, DTIC will try to arrive at a suitable accommodation for dial-up input.

References: Minutes of the RSAG Meeting, Aug 82  
Dial-up Input Test, Barbara Everidge, CARL  
Dial-up Input Test, Barbara Gladd, DTIC

## SBIN CHRONOLOGY

Mr. Allan Kuhn  
Office of Planning and Management  
Defense Technical Information Center

- 1976 Proposal and recommendations for a shared cataloging effort are formally submitted to DTIC (then DDC) by Mrs. Ruth Smith, Chief, Technical Information Services, Institute for Defense Analyses (IDA), Arlington, Virginia, representing the DoD technical library community. The effort is approved by Mr. Hubert Sauter, DDC/DTIC Administrator. The responsibility for the effort is given to Mr. Paul Klinefelter, then Deputy Director of Technical Services (DTIC-T).

At the same time groundwork for the DTIC effort is laid by Mr. Pat McConnell, then DTIC Technical Librarian, based on studies of shared cataloging networks operating at the time, including OCLC in particular. Mr. McConnell served with the effort until his departure for NRL in 1979.

- 1977 The effort is designated the Shared Bibliographic Input Experiment (SBIE) with Mr. Paul Klinefelter as Project Officer and Mr. Pat McConnell as Project Coordinator. A staff of DTIC personnel is drawn from the various DTIC areas that are to be affected by the effort, who give time in addition to their regular duties.

Remote terminal sites are selected as experiment participants. These sites are:

Air Force: Air Force Weapons Laboratory (AFWL), Albuquerque,  
New Mexico  
Army: Army Research and Development Command (ARRADCOM), Dover,  
New Jersey  
DoD: Defense Communications Agency (DCA), Washington, D.C.  
Defense Nuclear Agency (DNA), Washington, D.C.  
DoD Contractor: Institute for Defense Analyses (IDA), Arlington,  
Virginia  
Navy: Naval Research Laboratory (NRL), Washington, D.C.

- Aug 77 DTIC gives input training to these sites.  
Sep 77 SBIE input begins.  
Oct 77 The first semiannual SBIE-participants meeting is held at DDC with all six sites participating.

- Jun 78 A seminar sponsored by the Military Libraries Division is held at the Special Library Association Annual Conference in Kansas City, Missouri, at which the DTIC SBIE Project Officer and representatives from the six SBIE sites describe the various activities of the experiment.
- Jan 79 Input begins on technical reports which will not be sent to DTIC by the sites. This effort begins announcement of reports held elsewhere than by DTIC.
- May 79 The SBIE participants as a group formally propose the formation of RSAG to be sponsored by the DTIC Administrator and established to resolve problems of network activities and to make recommendations for enhancing SBIE. DTIC and an SBIE ad hoc committee work on the RSAG concept during the following year.
- Jul 79 DTIC formally proposes to DLA continuation of input of reports which will not be sent to DTIC. This input represents a significant change in the DTIC policy of having a document for every record in the TR data base. DLA approves this input.
- Apr 80 Programing is completed on new data element, SBI Holdings Symbol. This entry allows sites to establish their on-line catalogs as subsets within the DTIC TR data base.
- Apr 80 Input begins on an experimental basis for reports held in a site's collection other than only its own organization publications. This activity initiates true shared cataloging. It lasts until Sep 80 when it is temporarily suspended for evaluation and assessment of network duplicate checking problems that arise from this aspect.
- Jul 80 After a long period of experimentation, five new sites are added to SBIE. These sites are:
- Army Command and General Staff College, Fort Leavenworth, Kansas
  - Air Force Armament Lab, Eglin AFB, Florida
  - Naval Weapons Center, China Lake, California
  - Redstone Scientific Information Center, Huntsville, Alabama
  - Air Weather Service, Scott AFB, Illinois
- Sep 80 A meeting of the six original SBIE sites is held with the DTIC Administrator to review the program and to discuss RSAG membership, offices, and responsibilities. RSAG's first formal meeting is scheduled for Oct 80.

During the period of Sep 80 to Mar 81, the DTIC in-house duplicate checking function is automated. In the process, the Current File is made displayable and updated twice daily. Manual card catalog duplicate checking is gradually eliminated placing in-house duplicate checking on the same basis as SBIE site duplicate checking.

- Oct 80 The first RSAG meeting is held; organization and shared cataloging problems are discussed. Meetings are to be held every 6 months. During Oct-Dec 80 an Economic Analysis of SBIE is completed, updated, and submitted to DLA for review. With the projected growth and development of SBIE, a formal method of communication is set up to relay announcements of policy and procedures. This method is the dated and numbered "DTIC/SBIE Notices."
- Dec 80 Ms. Gladys Cotter, a participant in DTIC's Information Science Intern Program, is formally appointed SBIE Assistant Project Officer.
- Jan 81 As a test of DTIC's automated duplicate checking, SBIE sites again enter reports that are in their collections originating from sources other than their own. The twice-daily take-off of input and its display in the Current File permits a rapid decrease in duplicate input. Dial-up terminals are incorporated at DTIC for duplicate checking retrieval in addition to use of the dedicated terminals.
- Feb 81 Electronic Mail is programed by DTIC for use by the RSAG members and later will be expanded for use by all DTIC resource sharing participants.
- Mar 81 RSAG states a requirement for real-time, duplicate-check capability.
- Jul 81 A third set of six sites is added to SBIE. These sites are:

TRADOC HQ, Fort Monroe, Virginia  
 TRADOC-TRASANA, WSPG, New Mexico  
 TRADOC Army Aviation School, Fort Rucker, Alabama  
 TRADOC Army Air Defense School, Fort Bliss, Texas  
 Army Armament Material Readiness Command, Rock Island, Illinois  
 Naval Coastal Systems Center, Panama City, Florida

The expansion of TRADOC sites opens up the possibility of the inclusion of TRALINET as a subnetwork in SBIE.

During the period of Jul 81 to Feb 82, the DTIC Descriptive Cataloging Function is automated. The automation is done under the guidance of an in-house SBIE participant serving as Project Officer. This event puts DTIC Descriptive Cataloging on the same basis as SBIE site input, and allows the DTIC TR card catalog to be made static in Oct 81 after acquisition and reference processes inherent in the manual card catalog are also automated.

Mr. Paul Klinefelter, as the SBIE Project Officer, recommends a project termination date of Nov 81 and incorporation of SBI as a DTIC program. DLA, as a result of DTIC's SBIE Economic Analysis, finds the program cost beneficial, and recommends that SBIE become an

integral part of DTIC's programs. At the same time, a reorganization commences at DTIC, and Mr. Paul Klinefelter is appointed director of the newly established Office of User Services (DTIC-V).

Aug 81 RSAG establishes a subcommittee on Cataloging Rules to review TR cataloging rules used by government and nongovernment agencies and to make recommendations leading to standardized cataloging rules and procedures within the Defense community. Ms. Elaine Burrell, Chief, DTIC Descriptive Cataloging Branch, is appointed Chairperson.

Nov 81 In Nov 81, DTIC's Administrator appoints Ms. Gladys Cotter as Project Manager. Ms. Cotter's first act is to designate the project, under its new operational status, the DoD Shared Bibliographic Input Network (SBIN).

Jan 82 Five sites join SBIN:

TRADOC Army Armor School, Fort Knox, Kentucky  
Army Ballistic Research Laboratory, Aberdeen Proving Ground,  
Maryland  
TRADOC Army Field Artillery School, Fort Sill, Oklahoma  
TRADOC Army Infantry School, Fort Benning, Georgia  
Naval Surface Weapons Center, Dahlgren, Virginia and White Oak,  
Maryland

Feb 82 Dial-up input is made available for SBIN input. TRADOC CARL, Fort Leavenworth, Kansas, begins a 6-month evaluation of the system.

Jun 82 Seven sites join SBIN:

U.S. Naval Academy, Annapolis, Maryland  
TRADOC Army Institute for Military Assistance, Fort Bragg,  
North Carolina  
TRADOC Combined Arms Test Activity, Fort Hood, Texas  
Army Mobility Equipment R&D Command, Fort Belvoir, Virginia  
Air Force Tactical Air Forces Interoperability Group, Langley AFB,  
Virginia  
Defense Systems Management College, Fort Belvoir, Virginia  
Army Chemical Systems Laboratory, Aberdeen, Maryland

Aug 82 DTIC begins development of a LAM to provide support for local storage of restricted access materials using a DROLS-compatible system.

Oct 82 SBIN Conference, 25 and 26 Oct 82, at DTIC, Alexandria, Virginia.

## APPENDIX A

### CONFERENCE ATTENDEES

Hubert Sauter, Administrator	DTIC
Gladys Cotter, SBIN Project Manager	DTIC
Marcia Hanna	DTIC
Barbara Lesser	DTIC
Yvonne Kinkaid	DTIC
Marjorie Powell	DTIC
Eleanor de Chadenedes	DTIC
John Glynn	DTIC
Dick Bennertz	DTIC
Dick Douglas	DTIC
Nate Rosenbaum	DTIC
Hazel Horton	DTIC
John Crossin	DTIC
Frank Greer	DTIC
Allan Kuhn	DTIC
Bob Knez	DTIC
John Dickert	DTIC
Barbara Gladd	DTIC
Jane Hatton	DTIC
Laura Thompson	NCSC, Panama City, FL
Barbara Everidge	CARL, Ft. Leavenworth, KA
Bill Hansen	Armor Sch, Ft. Knox, KY
Mary Nell DuRant	USAAVNS, Ft. Rucker, AL
Judy A. Hawthorne	TRASANA, WSMR, NM
Betty Bohlin	TCATA, Ft. Hood, TX
Ethel Scaccio	DNA, Washington, DC
Bettye Pringle	IDA, Alexandria, VA
Sarah Nash	IDA, Alexandria, VA
Cathryn C. Lyon	IDA Alexandria, VA
Janet Pepper	MERADCOM, Ft. Belvoir, VA
Pete Imhof	NRL, Washington, DC
Betty Lindley	NRL, Washington, DC
Doris Folen	NRL, Washington, DC
Frances M. Thompson	NRL, Washington, DC
Dan Talbott	DMSC, Ft. Belvoir, VA
Marshall Hughes	NSWC, Dahlgren, VA
Mary Jane Brewster	NSWC, White Oak, MD
Patt Pulliam	NSWC, Dahlgren, VA
Sara Happel	NSWC, White Oak, MD
Walter S. Burgmann	AWS, Scott AFB, IL
Marion Fontish	AWS, Scott AFB, IL
Marilynn W. Johnson	TAFIG, Langley AFB, VA
I. Haznadari	ARRADCOM, Dover, NJ
Paul Ryan	BRL, APG, MD
Mike Durieko	AFWAL, WPAFB, OH

## APPENDIX B

### NEW PRODUCTS AND SERVICES

#### MULTIMEDIA INPUT PROGRAM IN THE TECHNICAL REPORTS DATA BASE

1. Camera Ready Input
2. Master Microfiche Input
3. Combination Reports Hard Copy with Microfiche Inserts
4. Availability Announcement/Documentless Input

#### SBI-RELATED ENHANCEMENTS

5. COM Indexes
6. MAI On Line
7. Security/Limitation Change Notification

#### ON-LINE SYSTEM CHANGES

8. Free Text Searching in the Technical Report Title Field
9. Front End Processor

#### MICROFICHE ENHANCEMENTS

10. Reformatted Microfiche Headers
11. Roll Film to Microfiche Conversion

#### OTHER

12. Report Number Standardization
13. Unclassified/Unlimited Compilations
14. Data Base of Data Bases

APPENDIX C

Date \_\_\_\_\_

SUBJECT: Request for SBIN Program Development/Enhancement

FROM:

THRU: RSAG

TO: DTIC-J (Gladys Cotter, SBIN Project Manager)

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PART A (To be completed by SBIN or RSAG member)

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1. TITLE OF REQUEST: Indicate that request is either an enhancement to some existing aspect of the Program or a development of a new aspect of the Program.

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2. DESCRIPTION OF REQUEST: Describe fully the enhancement or development and the work that is required.

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3. JUSTIFICATION: State specifically the current situation and operational impact if request is implemented.

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4. DESCRIBE COST-BENEFITS: Quantify, where possible, efficiencies gained and/or costs avoided if request is implemented, and specify whether these apply to an individual site or the entire network.

- 
5. PRINCIPAL AND ALTERNATE PERSONS TO CONTACT FOR FURTHER INFORMATION:  
Provide names, organizational location, and telephone numbers  
(AUTOVON if applicable).

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PART B (To be completed by RSAG)

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1. Recommendations:
2. Concurring Members:

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PART C (To be completed by DTIC)

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1. Date Received \_\_\_\_\_
2. Assigned to: \_\_\_\_\_
3. DTIC Action:   \_\_\_ Feasibility Study                   \_\_\_ Reject or Defer  
                  \_\_\_ Software Support Request       \_\_\_ Other
4. Rationale for Action:
5. Response to RSAG; Date \_\_\_\_\_

**APPENDIX D**  
**TECHNICAL REPORT**  
**INPUT & DISPLAY FIELD NUMBER INDEX**

<u>Data to be input</u>	<u>Field Number</u>
Abstract	27
Accession Number	1
Authors, Corporate	5
Authors, Personal	10
Candidate Posting Terms	25
Classification Authority	37
Classification of Abstract	28
Classification of Candidate Posting Terms	26
Classification of Documents	20
Classification of Posting Terms	24
Classification of Title	8
Contract/Grant Numbers	15
Corporate Author	5
Date of Publication	11
Declassification Date	38
Descriptive Note	9
Descriptors (See Posting Terms)	
Distribution/Availability Codes	33
Distribution/Availability Statements	22
Document Location	36
Extended by Data	45
Fields, Groups, Sub-Groups (COSATI Subject Category)	2
Grant Numbers	15
Identifiers (See Candidate Posting Terms)	
Index Annotation	30
Inventory	29
Monitor Acronyms	18
Pagination	12
Personal Author	10
Posting Terms	23
Project Number	16
Reason Codes	47
Regrade Codes	32
Regrade Date	11
Regrade to Confidential	39
Report Number Series (Corporate Author)	14
Report Number Series (Monitoring Organization)	18, 19
Review on Date	46
SBI Holding Symbol	48
Serial Number	34
Source Code	35
Special Codes	31
Supplementary Note	21
Task Number	17
Title (Classified)	7
Title (Unclassified)	6